# Draft
# Peoria Wildlife Mitigation Area Environmental Assessment

*Prepared for:*

U.S. Department of the Interior
Bureau of Reclamation

*Prepared by:*

Jones & Stokes

**September 2006**

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# Acronyms and Abbreviations

| | |
|---|---|
| BLM | Bureau of Land Management |
| CAAQS | California ambient air quality standards |
| Cal–IPC | California Invasive Plant Council |
| CCIC | Central California Information Center |
| CFR | Code of Federal Regulations |
| CHRIS | California Historical Resources Information System |
| CNEL | community noise equivalent level |
| CNPS | California Native Plant Society |
| CO | carbon monoxide |
| CRHR | California Register of Historical Resources |
| dBA | A–weighted decibel |
| DFG | California Department of Fish and Game |
| DRMP | *Draft New Melones Lake Resource Management Plan* |
| EA | environmental assessment |
| GLO | General Land Office |
| Interim Plan | *Interim Management Plan for the Peoria Wildlife Area* |
| NAAQS | national ambient air quality standards |
| NAHC | Native American Heritage Commission |
| NEPA | National Environmental Policy Act |
| $NO_2$ | nitrogen dioxide |
| $NO_x$ | oxides of nitrogen |
| NRHP | National Register of Historic Places |
| $O_3$ | ozone |
| ORV | off-road vehicle |
| Pb | lead |
| PM10 | particulate matter less than or equal to 10 microns in diameter |
| PM2.5 | particulate matter less than or equal to 2.5 microns in diameter |
| PWMA | Peoria Wildlife Management Area |
| Reclamation | U.S. Bureau of Reclamation |
| $SO_2$ | sulfur dioxide |
| SR | State Route |
| SWPPP | Storm Water Pollution Prevention Plan |
| USDA | U.S. Department of Agriculture |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| WHR | Wildlife Habitat Relationship |

# Chapter 1
# Introduction/Background

Peoria Wildlife Management Area (PWMA) covers approximately 2,500 acres in western Tuolumne County, California (Figures 1-1 and 1-2). This area lies at the southern end of New Melones Reservoir and is owned and managed as authorized by U.S. Bureau of Reclamation (Reclamation). The area was purchased specifically as mitigation for wildlife habitat lost as a result of construction of the New Melones Dam and Reservoir. PWMA provides natural habitat for many species of native plants, amphibians, reptiles, birds and mammals, including numerous species identified by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (DFG) as state or federally threatened, endangered species, or species of special concern. It is also frequently used by outdoor enthusiasts for hiking, sightseeing, wildlife viewing, bicycling, rock climbing, horseback riding, and hunting.

The PWMA access road crosses approximately 1.8 miles of the PWMA (Figure 1-2). This section of road was temporarily closed to public vehicles December 15, 2002 by Reclamation as a preventative measure to stop increasing damage to natural resources from illegal and inappropriate uses by both local and non-local recreationists. Vegetation damage, habitat destruction, erosion and sedimentation, and related resource impacts have severely damaged areas throughout the PWMA access road corridor. Illegal actions including target shooting, poaching, off-road driving, fires, littering, dumping of large debris and hazardous materials, vandalism, and illegal camping have resulted in widespread damage to the natural resources, soil erosion and habitat degradation and have compromised the safety of the public and adjacent landowners in the area. Closing the road to use by public vehicles has minimized the continued degradation of this area.

The proposed project analyzed in this document constitutes a federal action (i.e., a road closure and implementation of a resource management plan), which has the potential to affect the quality of the human environment on public lands administered by Reclamation. Therefore, the action must be analyzed pursuant to the National Environmental Policy Act (NEPA). Under NEPA, federal agencies must carefully consider environmental concerns in the decision-making process and provide relevant information to the public for review and comment.

Reclamation has therefore prepared this draft Environmental Assessment (EA) in compliance with the NEPA regulations. This EA discloses the direct, indirect,

and cumulative environmental impacts anticipated to result from implementation of the Proposed Action and each of four alternatives.

## Document Structure

This EA is organized into the following eight chapters:

- Chapter 1, *Introduction/Background*: includes information on the history of the project proposal.
- Chapter 2, *Purpose and Need*: includes information on the purpose of and need for the project.
- Chapter 3, *Proposed Action and Alternatives*: provides a detailed description and comparison of the Proposed Action and alternatives that were formed in response to major issues identified in internal and public review processes.
- Chapter 4, *Affected Environment*: provides a description of the existing conditions of the following resources within the project area: vegetation and wildlife recreation, land use and demographics, soils, cultural resources, agricultural and regional economics, visual resources, surface and ground water (including water quality), environmental justice, air quality, and noise.
- Chapter 5, *Environmental Consequences:* provides an analysis and description of the environmental effects of implementing the Proposed Action and other alternatives.
- Chapter 6, *Consultation and Coordination*: describes how Reclamation informed and involved the public in development of the Proposed Action; provides a summary of scoping processes, the public responses and a list of agencies consulted during the development of the EA.
- Chapter 7, *List of Environmental Commitments*: provides a list of compliance commitments that will be implemented by Reclamation to avoid, minimize, and/or mitigate environmental effects resulting from the Proposed Action.
- Chapter 8, *List of Preparers, Distribution List, and References Cited*: provides a list of document preparers and of organizations and persons to whom copies of the EA will be sent. Also provides a bibliography of all citations and personal communications used in this document.

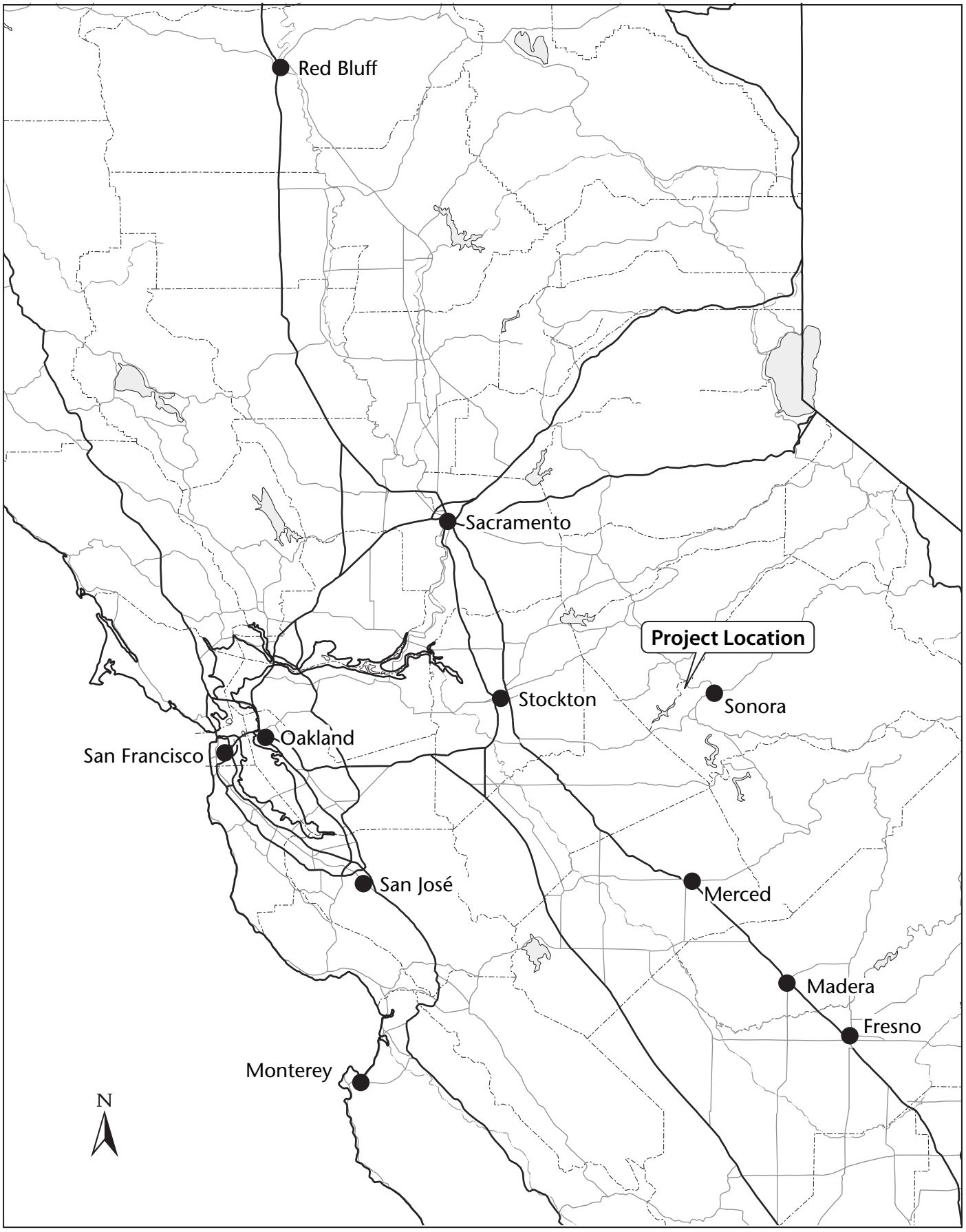


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**Figure 1-1**
**Project Location**

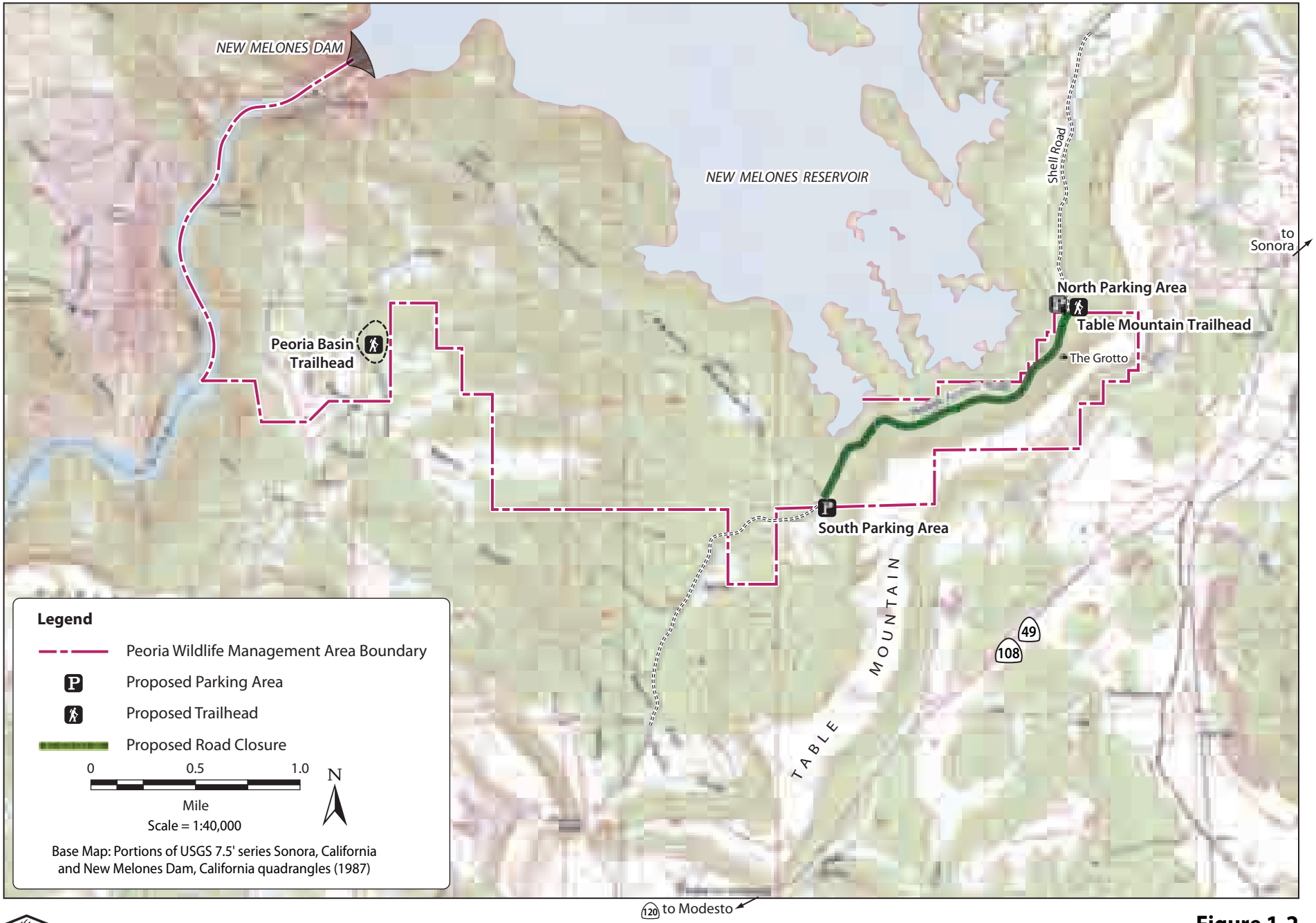


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**Figure 1-2**
**Project Area**

Chapter 2
# Purpose and Need

## Purpose

Through internal analysis and public scoping, Reclamation has identified specific goals and management actions for protecting and improving the natural resources and recreational opportunities of PWMA. These goals and actions are identified and analyzed in the *Interim Management Plan for the Peoria Wildlife Area* (Interim Plan) (U.S. Bureau of Reclamation 2003); this was formerly the interim plan for the Shell Road Corridor. The Proposed Action is a combination of selected goals and actions that Reclamation believes, if implemented, would best meet the long-range management objectives of this plan. These actions include providing low-impact rural-natural recreation opportunities, maintaining public access, protecting and restoring natural cultural and wildlife resources, assuring visitor safety and compatible recreational uses, protecting landowner rights, eliminating illegal and other inappropriate uses, and cooperatively managing the area in a cost- and time-efficient manner.

## Need

Past illegal and inappropriate uses of the PWMA, including off-road driving, illegal camping, and target shooting have severely damaged the natural resources within the PWMA access road corridor and jeopardized public safety, landowner rights, and general public recreational opportunities in the area. Temporary closure of the road to public vehicles has reduced or eliminated many of these effects.

A long-term management program that will support the objectives of the Draft *New Melones Resource Management Plan*[1] (DRMP) for the PWMA access road corridor is needed to ensure the protection, preservation, and compatible use of the resources within the PWMA. Reclamation's Central California Area Office, as federal lead agency for this action under NEPA, is responsible for ensuring that potential adverse environmental effects on public lands and resources are avoided or minimized. This EA was prepared in compliance with NEPA, the Council on Environmental Quality regulations (*40 Code of Federal Regulations*

1. The Draft *New Melones Resource Management Plan* was written specifically to address recreation issues. Therefore, it appears only in the recreation section in Chapter 5 and is not referenced in other sections.

[*CFR*] *1500–1508*) and the U.S. Department of the Interior National Environmental Policy Act Draft Handbook (US DOI 1997).

Chapter 3
# Proposed Action and Alternatives

## Introduction

This chapter describes the Proposed Action and four project alternatives. The Proposed Action and each of the alternatives are a combination of management actions that would function together to meet management goals of the Interim Plan.

These include:

- Alternative 1 No Change in Management = No Action
- Alternative 2 Resource Protection
- Alternative 3 Recreational Opportunities
- Alternative 4 Resource Protection and Recreation = **Proposed Action**
- Alternative 5 Area Closed to Recreation

Tables A-1 to A-5 in Appendix A summarize the goals and management actions of the Interim Plan included in the Proposed Action and each alternative.

## Description and Comparison of Proposed Action and Alternatives

Table 3-1 compares the effective attainment of these goals by each alternative.

### Alternative 1 – No Change in Management (No-Action Alternative)

As required by NEPA, a No-Action Alternative has been included in this analysis for review alongside the action alternatives. The No-Action Alternative reflects a continuation of existing management practices (prior to the temporary road closure) without changes, additions, or upgrades. The management actions that

would be implemented as part of this alternative are summarized in Table A-1 (Appendix A).

Selection of Alternative 1 would result in no vehicle access restrictions for the PWMA access road, minimal enforcement of regulations related to inappropriate uses of and damage to existing natural resources, minimal management of the area, and limited cooperation with user groups on trail development. This alternative would allow high-impact recreation to continue; provide minimal protection or restoration of natural, cultural, or wildlife resources and minimal improvement in public safety or compatible uses of the area; provide minimal protection of landowner rights; and continue with unrestricted access and use of the area. The No-Action Alternative provides a baseline for comparing the effects of the Proposed Action and the other action alternatives.

## Alternative 2 – Resource Protection

Alternative 2 prioritizes resource protection as the primary management objective. The management actions that would be implemented as part of this alternative are summarized in Table A-2 (Appendix A).

Selection of Alternative 2 would close the PWMA access road to public vehicle use year-round, and ban off-road vehicle (ORV) use, fires, dumping, littering, woodcutting, and use of weapons except for legal hunting. It would provide for natural resource restoration and enhancement; implementation of wildlife and vegetation management plans; development of trails, camping areas, and climbing areas; and implementation of environmental interpretation and education programs. This alternative would facilitate low-impact, rural-passive recreation, protect and restore natural, cultural and wildlife resources, increase public safety and recognition of landowner property rights, and increase public knowledge of illegal and inappropriate uses. It would also promote increased cooperation with some stakeholder user groups in development of effective resource management plans.

## Alternative 3 – Recreation Opportunities

Alternative 3 emphasizes management actions that would enhance recreational use opportunities of the PWMA access road corridor. The management actions that would be implemented as part of this alternative are summarized in Table A-3 (Appendix A).

Under this alternative, the PWMA access road would be closed for 5 months (December 1 to May 1) each year. Outside this period (7 months) there would be no access restrictions to public vehicle use of the PWMA access road. Parking and trailhead facilities would be developed at seasonal closure points to facilitate low-impact recreation when the road is closed. The current ban on ORV usage, fires, dumping, littering, woodcutting, and incompatible hunting would be enforced. Property boundaries would be posted and park rangers and other law

**Table 3-1.** Comparison of Interim Plan Alternatives

| Issue | Alternative 1 – No Action | Alternative 2 – Resource Protection | Alternative 3 - Recreation | Alternative 4 – Proposed Action | Alternative 5 – Closure to Recreation |
|---|---|---|---|---|---|
| Public access, recreation experience quality | No access restrictions except cross-fencing. Allows high impact and very low-quality recreation experience | Year-round road closure. Provides low-impact, rural-natural recreation experience | No access restrictions except cross-fencing when road is open. Allows high-impact and very low-quality recreation experience 7 months of the year. Provides low-impact, rural-natural recreation experience 5 months. | Year-round road closure. Provides low-impact, rural-natural recreation experience | Year-round road and area closure to all public use. Provides no recreation experience |
| Cultural and wildlife resources | Minimal protection or restoration of resources | High degree of protection and restoration of resources | Helps protect resources 5 months of the year<br>Decreased protection for 7 months of the year | Balances protection and restoration of resources | Greatest protection and restoration of resources |
| Visitor safety and compatible uses | No increase in public safety or use compatibility | Increases public safety and separates incompatible uses | Increases public safety and partially separates incompatible uses | Increases public safety and separates incompatible uses | Increases public safety by eliminating all recreational use |
| Landowner rights | Minimal protection of landowner rights | Increases public and landowner recognition of property boundaries | Increases public and landowner recognition of property boundaries | Increases public and landowner recognition of property boundaries. Identifies unknown or disputed boundaries | Increases public and landowner recognition of property boundaries. Identifies unknown or disputed boundaries |
| Illegal or inappropriate uses | Unrestricted access and use allows illegal and inappropriate uses | Increased public knowledge and decreased illegal and inappropriate uses. Increases ranger patrols | Increased public knowledge and decreased illegal and inappropriate uses. Increases ranger patrols | Increased public knowledge and decreased illegal and inappropriate uses. Increases law enforcement and ranger patrols | Restricting public from using the area will decrease illegal and inappropriate uses Increases law enforcement and ranger patrols |
| Cooperative management | No cooperative management | Increases cooperation | Increases cooperation | Increases cooperation | Increases cooperation |

enforcement officers would patrol the area regularly. Cooperative programs would be established to facilitate stakeholder participation in development of effective resource management plans. This alternative would result in seasonal high-impact/low-impact recreation use of the area. During the road closure period, restricted access and inappropriate use control would help protect natural, cultural, and wildlife resources; increase public safety and recognition of landowner property rights; and increase public knowledge of illegal and inappropriate uses.

## Alternative 4 – Resource Protection and Recreation (Proposed Action)

This alternative combines the management actions of Alternatives 2 and 3 to optimize both protection of the natural, cultural, and wildlife resources in the PWMA access road corridor and sustainable recreational uses of the area. The management actions that would be implemented as part of this alternative are summarized in Table A-4 (Appendix A).

Selection of Alternative 4 would result in the PWMA access road being closed to public vehicle use year-round; all current bans on inappropriate and illegal activities within the corridor would be enforced, and property owner rights would be fully recognized. Parking and trailhead facilities would be developed at road closure points; regulated climbing, group camping, and hunting would be permitted in appropriate areas, and environmental education programs would be implemented. Cooperative management programs for restoration and enhancement of natural resources would be developed and implemented. Implementation of all the management actions of this alternative would meet all the management goals of the Interim Plan.

## Alternative 5 – Area Closed to Recreation

The primary focus of Alternative 5 would be exclusive management of PMWA for natural resources. This alternative would permanently close the PWMA access road and road corridor to all public use year-round. The management actions that would be implemented as part of this alternative are summarized in Table A-5 (Appendix A).

Selection of Alternative 5 would provide no public access for recreation and no opportunities for low-impact, rural-natural recreation. All bans on inappropriate and illegal use of the area would be enforced. Management actions would focus on implementation of natural resource restoration, management, and protection plans. This alternative would result in maximum feasible protection of natural, cultural, and wildlife resources in the area, minimization of public safety and landowner property violations. It would also favor increased cooperation from other resource management agencies for law enforcement, maintenance of the

PWMA access road within the PWMA for resource management and fire control, and development of a hunting permit plan for Peoria Mountain section only.

Chapter 4
# Affected Environment

## Introduction

NEPA regulations direct agencies to succinctly describe the environment that may be affected by the alternatives under consideration. This chapter describes the existing physical, biological, social, and economic components of the project area (affected environment), and environmental consequences that have potential to occur by implementing any of the alternatives. The following resource areas are covered:

I. vegetation and wildlife,
II. recreation,
III. land use and demographics,
IV. soils,
V. cultural resources,
VI. agricultural and regional economics,
VII. visual resources,
VIII. surface and ground water (including water quality),
IX. environmental justice,
X. air quality, and
XI. noise.

The following resource areas were not evaluated in this analysis because they do not have potential to be affected by implementing any of the project alternatives.

- **Fisheries.** No suitable habitat for fish is located within the project study area that would be potentially affected by implementation of the alternatives.
- **Energy.** No energy issues were identified in the Interim Plan or during the public scoping meetings.
- **Transportation.** No traffic issues were identified in the Interim Plan or during the public scoping meetings. The section of road within the PWMA that is the focus of this EA is not Shell Road, which extends from the PWMA boundary north (Figure 1-2). It is the Reclamation emergency and

maintenance access road only, referred to in this report as the PWMA access road.

- **Indian land assets.** There are no Indian trust assets within or near the project study area.

# I. Vegetation and Wildlife

This section describes the existing conditions of the vegetation communities; wildlife habitats, threatened, endangered and other special-status species, and noxious weeds.

Existing available information was gathered and reviewed to determine the location and types of vegetation and wildlife resources that exist within the project study area. Sources of information included the California Natural Diversity Database (California Natural Diversity Database 2004), the DRMP (U.S. Bureau of Reclamation 1996), *Vegetation Classification and Mapping of Peoria Wildlife Area, South of New Melones Lake, Tuolumne County, California* (Evens et al. 2004 ); *Ecological Subregions of California: Section and Subsection Descriptions* (Miles and Goudey 1997) *Vegetation Management Plan* (U.S. Bureau of Reclamation 1997) and the *New Melones Lake Fish and Wildlife Resources, Final Report* (U.S. Fish and Wildlife Service 1991), and Jones & Stokes' file data. Vegetation communities were classified according to the higher-level classification of the California Native Plant Society (CNPS) (2004). Wildlife habitats were identified based on Wildlife Habitat Relationship (WHR) classification (Mayer and Laudenslayer 1988).

Information on special-status species was obtained through meetings with Reclamation staff (D. Holsapple and P. Brooks pers. comms.), review of the Draft *Survey for Special Status Plant Species on Peoria Wildlife Area Serpentine, New Melones Project, CA* (Ayres 2005), and on-line consultation with USFWS to obtain special-status species lists for the project study area (http://sacramento.fws.gov/es/spp_list.htm). Special-status species that were evaluated in this report included all federally and state-listed species (threatened, endangered, or proposed for listing), candidate species and species of concern as listed in Chapter 5, *Consultation and Coordination*. Fish species were not included in this assessment because no suitable fish habitat occurs in the project study area that would be affected by the Proposed Action.

A Jones & Stokes wildlife biologist conducted a reconnaissance-level survey of the project study area on December 2, 2004. The entire PWMA access road corridor was viewed from the PWMA access road starting from the proposed north parking area and trailhead to the proposed south parking area. Off-road hiking surveys were also made to Table Mountain and the Grotto. An additional reconnaissance trip was made along the Peoria Mountain trail from the proposed south parking area (Figure 1-2) to the New Melones dam and powerhouse overlook, then back to the proposed Peoria Basin trailhead.

# Vegetation Communities and Wildlife Habitats

The vegetation communities and wildlife habitats present along the PWMA access road corridor are typical of those found throughout the lower Sierra Nevada foothills, including extensive areas of California annual grassland, blue oak woodland, interior live oak woodland, and chamise chaparral. Figure 4-1 shows a representative area of blue oak woodland/annual grassland along the PWMA access road. The foothill region vegetation is strongly influenced by the Mediterranean climate, with hot, dry summers alternating with cool, wet winters. Accordingly, the vegetation is made up largely of drought-resistant trees and shrubs and short-lived annuals. The regional geology also has a strong influence on the vegetation. The serpentine outcrops and basalt lava flows found in the area affect the type and abundance of plants that grow there. Serpentine soils have low fertility and often have low vegetation cover. Some of the sensitive plant species in the project area are found only on serpentine soils. Soils overlying the basalt lava flows are generally thin and mostly support herbaceous plant communities. Where no soil is present, the vegetation consists of mosses, club moss, and lichens. In many places the basalt bedrock is impermeable and rainfall collects in basins and swales, supporting seasonal wetlands. The dominant plant species and representative wildlife associated with each of these communities are described below.

## California Annual Grassland

California annual grassland occurs in a narrow band along the PWMA access road and is also a component of the understory of the oak woodlands along the PWMA access road corridor. It is also the principal plant community on the top of Table Mountain (Figure 1-2). California annual grassland is an herbaceous upland community composed of non-native annual grasses and native and non-native forbs. In the PWMA access road corridor, the characteristic grasses are soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), medusahead (*Taeniatherum caput-medusae*), and Italian ryegrass (*Lolium multiflorum*). The forb component is diverse, composed of both native and non-native species, including winecup clarkia (*Clarkia purpurea*), popcornflower (*Plagiobothrys* sp.), yellowflower tarweed (*Holocarpha virgata)*, sky lupine (*Lupinus nanus*), winter vetch (*Vicia villosa*), and clover (*Trifolium* sp.) species.

Wildlife species use this habitat largely for foraging, but a variety of species require special habitat features such as cliffs, caves, ponds, and woody plants for breeding, resting, and escape cover (Mayer and Laudenslayer 1988). Common birds that breed in annual grasslands include burrowing owl (*Athene cunicularia*), short-eared owl (*Asio flammeus*), horned lark (*Eremophila alpestris*), and western meadowlark (*Sturnella neglecta*) (Verner et al. 1980). Raptors that prey on the small mammals, reptiles, and insects of the grasslands include the northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), and prairie falcon (*Falco mexicanus*). Common mammals of this habitat include black-tailed jackrabbit (*Lepis californicus*), California ground squirrel (*Spermophilus beecheyi*), Botta's

pocket gopher (*Thomomys bottae*), western harvest mouse (*Reithrodontomys megalotis*), California vole (*Microtus californicus*), badger (*Taxidea taxus*), and coyote (*Canis latrans*). Common reptiles include western fence lizard (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*), and western rattlesnake (*Crotalus viridis*).

## Blue Oak Woodland

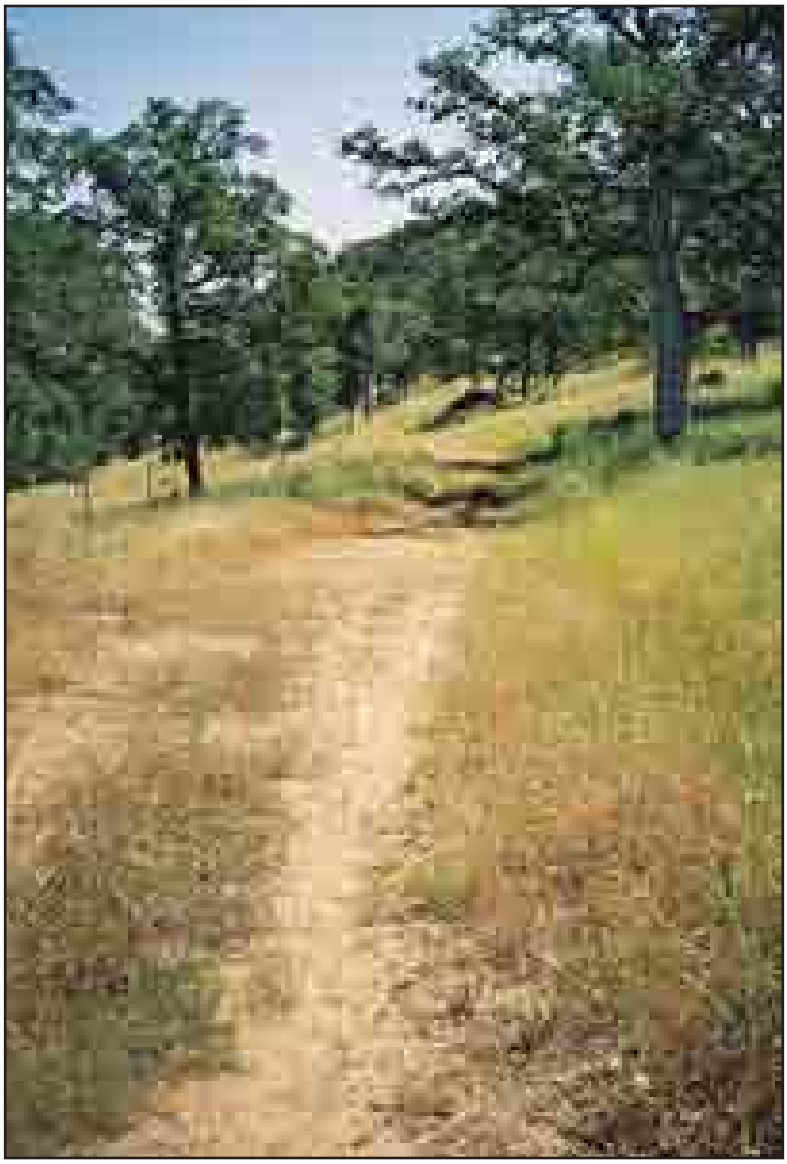
Blue oak woodland is the most extensive plant community in the PWMA. It occurs along the southern two-thirds of the PWMA access road and is also present at Peoria Basin trailhead site. Blue oak woodland is a dense to open-canopy woodland in which blue oak (*Quercus douglasii*) is the dominant tree species. In the PWMA access road corridor, other trees, such as California buckeye (*Aesculus californica*) or foothill pine (*Pinus sabiniana*), may be common. The understory consists of California annual grassland with few shrubs, or there may be a sparse to open shrub layer dominated by poison-oak (*Toxicodendron diversilobum*).

Common birds that use the blue oak woodland include acorn woodpecker (*Melanerpes formicivorus*), spotted towhee (*Pipilo maculates*), black-headed grosbeak (*Pheucticus melanocephalus*), western bluebird (*Sialia mexicana*), northern mockingbird (*Mimus polyglottos*), western scrub-jay (*Aphelocoma californica*), olive-sided flycatcher (*Contopus cooperi*), and northern flicker (*Colaptes auratus*). Common reptiles and amphibians include western whiptail (*Cnemidophorus tigris*), southern alligator lizard (*Gerrhonotus multicarinatus*), ring-necked snake (*Diadophis punctatus*), racer (*Coluber constrictor*), common kingsnake (*Lampropeltis getulus*), California newt (*Taricha torosa*), western toad (*Bufo boreas*), and California slender salamander (*Batrachoseps attenuatus*). Common mammals include western gray squirrel (*Sciurus griseus*), California ground squirrel, Botta's pocket gopher, coyote, red fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), and black-tailed deer (*Odocoileus hemionus*).

## Interior Live Oak Woodland

Another type of oak woodland is present along the northern third of the PWMA access road and on the slopes between the road and Table Mountain. This is interior live oak woodland, a dense canopy woodland in which interior live oak (*Quercus wislizenii*) is the most common tree. Other trees common in this woodland include blue oak, black oak (*Quercus kelloggii*), foothill pine, and California buckeye. The understory may consist of California annual grassland or there may be abundant shrubs, particularly poison oak and toyon (*Heteromeles arbutifolia*).

Wildlife associated with interior live oak woodland is essentially the same as those associated with blue oak woodland described above.



Blue Oak Woodland/California Grassland along PWMA Access Road, Peoria Wildlife Mitigation Area, Tuolumne County, California.

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**Figure 4-1**
**Blue Oak Woodland/California Grassland along PWMA Access Road**

## Chamise Chaparral

In the PWMA access road corridor, oak woodland is intermixed with stands of chamise chaparral. These stands have an open to continuous shrub layer in which chamise (*Adenostoma fasciculatum*) is the most common shrub. Other shrubs present may include common manzanita (*Arctostaphylos manzanita*), coffeeberry (*Rhamnus* sp.), hollyleaf redberry (*Rhamnus ilicifolia*), yerba santa (*Eriodictyon angustifolium*), and woolly sunflower (*Eriophyllum* sp.). The herbaceous understory consists of native and non-native grasses and forbs.

Breeding birds common to the chaparral include California quail (*Callipepla californica*), Anna's hummingbird (*Calypte anna*), western scrub-jay, bushtit (*Psaltriparus minimus*), Canyon wren (*Catherpes mexicanus*), California towhee (*Pipilo crissalis*), rufous-crowned sparrow (*Aimophila ruficeps*), and blue-gray gnatcatcher (*Polioptila caerulea*). Common mammals include pinion mouse, brush mice (*Peromyscus boylii*), brush rabbit (*Sylvilagus bachmani*), dusky-footed woodrat (*Neotoma fuscipes*), bobcat (*Lynx rufus*), and black-tailed deer. Common reptiles include western fence lizard, southern alligator lizard, western rattlesnake, and striped whipsnake (*Masticophis taeniatus*).

## Wetlands

No wetlands are mapped along the PWMA access road. Wetlands are present in the PWMA access road corridor, but these are on the top of Table Mountain. The wetlands are vernal pools and swales that occur in depressions and low areas, interspersed within the annual grassland.

## Noxious Weeds

Noxious weed species include species designated as federal noxious weeds by the U.S. Department of Agriculture, species listed by the California Department of Food and Agriculture, and other exotic pest plants designated by the California Invasive Plant Council (Cal-IPC). Roads are one of the primary dispersal routes for noxious weeds. Wildfire also appears to have created opportunity for the spread of invasive grasses and forbs in the PWMA. The introduction and spread of noxious weeds adversely affects natural plant communities by displacing native plants that provide shelter and forage for wildlife species. Six noxious weed species have been identified in the PWMA (Table 4-1). Noxious weeds that may be present in the PWMA access road corridor include Italian thistle (*Carduus pycnocephalus*), Maltese star-thistle (*Centaurea melitensis*), yellow star-thistle (*Centaurea solstitialis*), and medusahead. Purple false-brome (*Brachypodium distachyon*) is another non-native invasive grass that has colonized portions of the wildlife area where fires recently occurred. Although not yet listed as a noxious weed, this species is under review for listing by Cal-IPC.

**Table 4-1.** Noxious Weeds Species Occurring in the PWMA

| Name | Status* Federal/State/ Cal-IPC | Comments |
|---|---|---|
| Tree-of-heaven *Ailanthus altissima* | –/–/List A-2 | Uncommon in PWMA; not known to occur in PWMA access road corridor |
| Italian thistle *Carduus pycnocephalus* | –/–/List B | Widespread in grasslands and oak woodlands |
| Maltese star-thistle *Centaurea melitensis* | –/–/List B | |
| Yellow star-thistle *Centaurea soltitialis* | –/–/List A-2 | Associated with recently burned areas and other disturbed areas |
| Edible fig *Ficus carica* | –/–/List A-2 | Occurs in drainages with intermittent streams; not known to occur in PWMA access road corridor |
| Medusahead *Taeniatherum caput-medusae* | –/–/List A-1 | Invades all vegetation types; highest concentrations along roads and power lines |
| Purple false-brome *Brachypodium distachyon* | –/–/Annual Grasses | Associated with recently burned areas |

*Status

| | |
|---|---|
| – : | No listing |
| List A: | Most Invasive Wildland Pest Plant; documented as aggressive invaders that displace natives and disrupt natural habitats. Includes two sublists: |
| List A-1: | Widespread pests that is invasive in more than three floristic regions in California. |
| List A-2: | Regional pests invasive in three or fewer floristic regions in California. |
| List B: | Invasive pest plants that spread less rapidly and cause a lesser degree of habitat disruption. |
| Annual Grasses: | A preliminary list of non-native annual grasses, abundant and widespread in California, that pose significant threats to wildlands. |

# Threatened, Endangered and Other Special-status Species

## Plants

Twenty-two sensitive plant species occur in or near the PWMA (Table 4-2). Five of the species are federally listed as threatened or endangered, and the Sacramento Fish and Wildlife Service office considers many of the others to be species of concern. The habitats within the corridor may be suitable for many of the species. One species, Red Hills soaproot (*Chlorogalum grandiflorum*) was observed immediately adjacent to the PWMA access road. Veiny monardella (*Monardella douglasii* ssp. *venosa*) is known to occur in the Peoria Basin, approximately 1 mile southeast of the proposed Peoria Basin trailhead site.

**Table 4-2.** Special-Status Plants Occurring in the Vicinity of the PWMA Access Road Corridor

| Name | Status* Federal/State/ CNPS | Distribution | Habitat / Blooming Period | Occurrence in Project Area |
|---|---|---|---|---|
| Henderson's bentgrass *Agrostis hendersonii* | SC/–/3 | Scattered locations in Central Valley and adjacent foothills | Moist places in grasslands, vernal pools; blooms April-May | Not known to occur in project area |
| Jepson's onion *Allium jepsonii* | SC/–/1B | Sierra Nevada foothills in Butte County; one disjunctive population in Tuolumne County | Serpentine or basalt outcrops, at 980–3,800 feet; blooms May–June | 2 miles NE of project area, on Table Mountain |
| Rawhide Hill onion *Allium tuolumnense* | SC/–/1B | Central Sierra Nevada foothills: Rawhide Hill, Red Hills, Tuolumne County | Cismontane woodland on serpentine soils, between 1,000 and 2,000 feet; blooms May | 4 occurrences in lower Peoria Basin |
| Nissenan manzanita *Arctostaphylos nissenana* | SC/–/1B | Sierra Nevada foothills: El Dorado and Tuolumne Counties | Closed-cone coniferous forest, chaparral/rocky, on dry ridges; blooms Feb–Mar | Not known to occur in project area |
| Chinese Camp brodiaea *Brodiaea pallida* | T/E/1B | Central Sierra Nevada foothills, near Chinese Camp, Tuolumne County | Valley and foothill grassland, vernal swale, on serpentine clay; blooms May–June | Not known to occur in project area |
| Hoover's rosinweed *Calycadenia hooveri* | SC/–/1B | Northern and central Sierra Nevada foothills, Calaveras, Madera, Merced, Mariposa, and Stanislaus Counties | Cismontane woodland, valley and foothill grassland, on barren, rocky, exposed soil, 200–1,000 feet; blooms July–Sep | Not known to occur in project area |
| Red Hills soaproot *Chlorogalum grandiflorum* | SC/–/1B | Northern and central Sierra Nevada foothills: El Dorado, Placer, and Tuolumne Counties | Chaparral or woodland on serpentine or gabbro; blooms May–June | 2 occurrences in lower Peoria Basin |
| Mariposa clarkia *Clarkia biloba* ssp. *australis* | SC/–/1B | Central Sierra Nevada Foothills, Merced River drainage: Mariposa and possibly Tuolumne Counties | Chaparral, cismontane woodland; blooms May–July | Not known to occur in project area |
| Beaked clarkia *Clarkia rostrata* | SC/–/1B | Central Sierra Nevada foothills and east edge of San Joaquin Valley, in Stanislaus, Mariposa, and Merced Counties | Annual grassland, blue oak woodland; blooms April–May | Not known to occur in project area |

| Name | Status* Federal/State/ CNPS | Distribution | Habitat / Blooming Period | Occurrence in Project Area |
|---|---|---|---|---|
| Tuolumne button-celery<br>*Eryngium pinnatisectum* | SC/–/1B | Northern and central Sierra Nevada foothills, east edge of Great Valley: Sacramento to Tuolumne Counties | Vernal pools and moist areas in cismontane woodland and lower montane coniferous forest, 800-1,500 feet; blooms June–Aug | Not known to occur in project area |
| Spiny-sepaled button-celery<br>*Eryngium spinosepalum* | SC/–/1B | Eastern San Joaquin Valley and Sierra Nevada foothills, from Tuolumne County to Tulare County | Valley and foothill grassland, vernal pools, 330–840 feet; blooms Apr–May | Not known to occur in project area |
| Tuolumne fawn lily<br>*Erythronium tuolumnense* | SC/–/1B | Central Sierra Nevada foothills: Tuolumne County | Broad-leaved upland forest, chaparral, lower montane coniferous forest, 1,970–3,120 feet; blooms Mar–June | Not known to occur in project area |
| Bisbee Creek rush rose<br>*Helianthemum suffrutescens* | –/–/3 | Northern and central Sierra Nevada foothills, from Sacramento to Tuolumne Counties | Chaparral, often on serpentine, gabbro, or Ione soils, below 5,000 feet; blooms April–May | Not known to occur in project area |
| Tuolumne iris<br>*Iris hartwegii* ssp. *columbiana* | –/–/1B | Central high Sierra Nevada: Tuolumne County | Cismontane woodland, lower montane coniferous forest, 1,970–4,600 feet; blooms May–June | Not known to occur in project area |
| Congdon's lomatium<br>*Lomatium congdonii* | SC/–/1B | Central Sierra Nevada foothills: Mariposa and Tuolumne Counties | Chaparral, cismontane woodland on serpentine; blooms Apr–June | 9 occurrences in lower Peoria Basin |
| Shaggyhair lupine<br>*Lupinus spectabilis* | SC/–/1B | Central Sierra Nevada foothills: Mariposa and Tuolumne Counties | Chaparral, cismontane woodland on serpentinite; blooms Apr–May | 3 occurrences in lower Peoria Basin |
| Red Hills ragwort<br>*Senecio clevelandii* var. *heterophyllus* | –/–/1B | Tuolumne Co.: endemic to the Red Hills | Seeps in serpentine chaparral; blooms June-July | 1 occurrence in lower Peoria Basin |
| Layne's ragwort<br>*Senecio layneae* | T/R/1B | Northern and central Sierra Nevada foothills: El Dorado and Tuolumne Counties | Chaparral or woodland on serpentine or gabbro; blooms April–July | 1 occurrence in lower Peoria Basin |
| Veiny monardella<br>*Monardella douglasii* var. *venosa* | SC/–/1B | Northern and central Sierra Nevada foothills: Butte and Tuolumne Counties | Annual grasslands, on heavy clay soils, below 1,300 feet; blooms May–July | Peoria Basin |

| Name | Status* Federal/State/ CNPS | Distribution | Habitat / Blooming Period | Occurrence in Project Area |
|---|---|---|---|---|
| Colusa grass<br>*Neostapfia colusana* | T/E/1B | Great Valley: Merced, Solano, and Yolo Counties | Vernal pools; blooms May–September | Not known to occur in project area |
| Hartweg's sunburst<br>*Pseudobahia bahiifolia* | E/E/1B | Eastern San Joaquin Valley and adjacent foothills, formerly as far north as Yuba County | Clay soils in grasslands, adjacent to vernal pools and streams; blooms March–May | Not known to occur in project area |
| Red Hills ragwort<br>*Senecio clevelandii* var. *heterophyllus* | –/–/1B | Central Sierra Nevada foothills: Tuolumne County | Serpentine seeps in cismontane woodland; blooms June–July | Not known to occur in project area |
| California vervain<br>*Verbena californica* | T/T/1B | Central Sierra Nevada foothills: Tuolumne County | Seeps or creekside in cismontane woodland and grassland, on serpentinite; blooms May–Sep | Not known to occur in project area |

*Status explanations:

**Federal**

| | | |
|---|---|---|
| E | = | listed as endangered under the federal Endangered Species Act. |
| T | = | listed as threatened under the federal Endangered Species Act. |
| SC | = | species of concern; species the Sacramento Fish and Wildlife Office believes might be in need of concentrated conservation actions. |
| – | = | no listing. |

**State**

| | | |
|---|---|---|
| E | = | listed as endangered under the California Endangered Species Act. |
| T | = | listed as threatened under the California Endangered Species Act. |
| R plants | = | listed as rare under the California Native Plant Protection Act. This category is no longer used for newly listed plants, but some previously listed as rare retain this designation. |
| – | = | no listing. |

**California Native Plant Society**

| | | |
|---|---|---|
| 1B | = | List 1B species: rare, threatened, or endangered in California and elsewhere. |
| 3 | = | List 3 species: plants about which more information is needed to determine their status. |

### Wildlife

Table 4-3 presents a list of all threatened, endangered, candidate and other special-status wildlife species identified by USFWS as having potential to occur within the geographic area defined by the following nine U.S. Geological Survey (USGS) quads, centered on and surrounding the project study area: Sonora, Chinese Camp, New Melones Dam, Copperopolis, Knight's Ferry, Keystone, Columbia, Salt Spring Valley, and Angels Camp. Table 4-3 describes the distributional range and characteristic habitat of these species and the potential for their occurrence within the project study area.

Five federally listed species have potential to occur in the project study area. Two of these species are also listed by the state or are proposed for state listing. Five additional species are state-listed only or are proposed for state listing. Thirty-six additional special-status species (including delisted species) also have potential to occur in the project study area. Thirty of these are federal species of concern, 10 of which are also state species of concern. An additional five species are state species of concern only.

# II. Recreation

Within the proposed project study area the PWMA, Table Mountain, and Peoria Basin provide opportunities for a rich diversity of recreation, including: hiking, wildlife, flower, and panorama viewing and photography, rock climbing, permitted hunting, bicycling, and horseback riding.

PWMA is a habitat mitigation area for the New Melones Dam and Reservoir that has been set aside for wildlife habitat protection and enhancement. Many recreationists visit each year, and numerous hikers also enjoy the panoramic vistas, vernal pools, and wildflowers that occur on top of Table Mountain (Figure 1-2) each year. Peoria Basin, the proposed location for development of a new trailhead as part of the proposed project, is also used for hiking, horseback riding, cycling, hunting, and nature viewing. An old abandoned landing strip located there has also been converted for use by model airplane hobbyists.

Illegal activities such as target shooting, poaching, off-road driving, fires, and prohibited camping have also occurred in all these areas and have caused substantial destruction to the existing resources in the PWMA access road corridor.

# III. Land Use and Demographics

The PWMA access road corridor is part of the PWMA. The principal land uses for this area include natural resource management, some livestock grazing, and recreation. The DRMP and the Interim Plan outline the Reclamation management objectives for land uses within the PWMA.

The demographics of the PWMA access road corridor are described in *Environmental Justice* later in this section.

# IV. Soils

The soils along the corridor were mapped by the U.S. Department of Agriculture (USDA) Soil Conservation Service (Rogers 1967). The mapping prepared for the report shows only the general distribution of soils in the area and may not be entirely accurate along the length of the corridor.

The soil survey mapping shows the northern two-thirds of the corridor as being underlain by the Rockland-Hideaway-Pentz association, 2 to 30% slopes, which formed from latite and tuff (both volcanic rocks). The soils in this unit are very shallow, well drained, and stony. In some areas there is little or no soil material present. Where soil material is present, the surface texture is loam or cobbly sandy loam. Runoff rates are rapid to very rapid and the erosion hazard when the vegetation cover has been disturbed is slight to moderate. Native fertility of the soils is inferred to be moderate.

The soil survey mapping shows the southern one-third of the corridor as being underlain by the Auburn-Sobrante association, rocky, 30 to 50% slopes, which formed from metabasic and metasedimentary rocks. The soils in this unit are shallow to moderately deep and well drained. Areas of rock outcrop are common. The surface texture is silt loam. Runoff rates are rapid and the erosion hazard when the vegetation cover has been disturbed is high. Native fertility of the soils is inferred to be moderate.

The trail corridor is on a sideslope of Table Mountain and is roughly aligned parallel to the hillslope contour. This slope drains to New Melones Reservoir, which ranges from 400 to 1,000 feet from the centerline of the trail corridor. Based on a USGS 7.5-minute quadrangle topographic map, cross-slope gradients generally are 15 to 45%.

The corridor has been subject to excessive ORV, bicycle, and equestrian use. These uses have caused vegetation removal and soil compaction, which has resulted in accelerated soil erosion and sedimentation (Figures 4-2a and 4-3a). Reclamation implements a program of ongoing seeding to control erosion along the corridor, but continued excessive use of the trail hampers the revegetation effort. Reclamation also periodically re-grades sections of the road to repair severely damaged areas; this practice may temporarily reduce erosion rates in such sections.

# V. Cultural Resources

This section discusses the cultural context of the project area, identifies cultural resources in the area, describes the overall regulatory framework for cultural

**Table 4-3.** Threatened, Endangered, Candidate and Other Special-Status Wildlife Documented or Identified as Having Potential to Occur in the Project Study Area

| Common and Scientific Name | *Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in Study Area |
|---|---|---|---|---|
| **Invertebrates** | | | | |
| Hirsute Sierra sideband *Monadenia mormonum hirsuta* | SC/-- | Tuolumne County near Jamestown | Associated with basalt of Table Mountain | High. Documented occurrence at Yosemite junction, approx 1.75 mi. south of project study area |
| Midvalley fairy shrimp *Branchinecta mesovallensis* | SC/-- | Sacramento, Solano, Merced, Madera, San Joaquin, Fresno, and Contra Costa counties. | Vernal pools | Not likely. No records from CNDDB. Project study area outside of known distributional range of this species |
| Vernal pool tadpole shrimp *Lepidurus packardi* | E/-- | Shasta County south to Merced County | Vernal pools and ephemeral stock ponds | Low. No records from CNDDB. Vernal pool habitat on Table Mountain |
| Molestan blister beetle *Lytta molesta* | SC/-- | San Joaquin Valley from Contra Costa County south to Tulare and Kern Counties | Feeds on flowers in the summer and fall, mostly composites | Low. No records from CNDDB |
| Valley elderberry longhorn beetle *Desmocerus californicus dimorphus* | T/-- | Streamside habitats below 3,000 feet throughout the Central Valley | Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant | High. CNDDB record approximately 2 mi. NE of project study area. Blue elderberry plants occur within the New Melones Reservoir area |
| **Amphibians** | | | | |
| California tiger salamander *Ambystoma californiense (=A. tigrinum c.)* | T/SSC | Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County | Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy | Low. No records from CNDDB. Vernal pool habitat on Table Mountain |
| Western spadefoot *Spea hammondii* | SC/SSC, P | Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California | Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands. | Low. No records from CNDDB. Potential breeding habitat on Table Mountain |

| Common and Scientific Name | *Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in Study Area |
|---|---|---|---|---|
| California red-legged frog *Rana aurora draytoni* | T/SSC, P | Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehema County to Fresno County | Permanent and semipermanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods | Not likely. No records from CNDDB. No suitable habitat identified within the project study area |
| Foothill yellow-legged frog *Rana boylii* | SC/SSC, P | Occurs in the Klamath, Cascade, north Coast, south Coast, Transverse, and Sierra Nevada Ranges up to approximately 6,000 feet | Creeks or rivers in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along the edge. Usually found near riffles with rocks and sunny banks nearby | None. No records from CNDDB. No suitable habitat within the project study area |
| **Reptiles** | | | | |
| Northwestern pond turtle *Clemmys marmorata marmorata* | SC/SSC | Occurs from the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada | Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests | Low. No records from CNDDB. Suitable habitat in New Melones Reservoir |
| Southwestern pond turtle *Clemmys marmorata pallida* | SC/SSC | Occurs along the central coast of California east to the Sierra Nevada and along the southern California coast inland to the Mojave and Sonora Deserts; range overlaps with that of the northwestern pond turtle throughout the Delta and in the Central Valley | Woodlands, grasslands, and open forests; aquatic habitats, such as ponds, marshes, or streams, with rocky or muddy bottoms and vegetation for cover and food | Low. No records from CNDDB. Suitable habitat in New Melones Reservoir |
| California horned lizard *Phrynosoma coronatum frontale* | SC/SSC | Sacramento Valley, including foothills, south to southern California; Coast Ranges south of Sonoma County; below 4,000 feet in northern California | Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging | Likely. No records from CNDDB. Potential grassland and chaparral habitat exists within the Shell Road corridor |

| Common and Scientific Name | *Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in Study Area |
|---|---|---|---|---|
| Silvery legless lizard *Anniella pulchra pulchra* | SC/-- | Coast Ranges from the Antioch, Contra Costa County south to the Mexican border. Spotty occurrence throughout the rest of their range, which includes the floor of the San Joaquin Valley from San Joaquin County south, the west slope of the southern Sierra, the Tehachapi Mountains west of the desert, and the mountains of southern California. Elevation sea level to above 6,000 feet in the Sierra | Common in coastal dune, valley-foothill, chaparral, and coastal scrub types | Possible. No records from CNDDB. Suitable habitat within the project study area |
| **Birds** | | | | |
| Aleutian Canada goose *Branta canadensis leucopareia* | D/-- | The entire population winters in Butte Sink, then moves to Los Banos, Modesto, the Delta, and East Bay reservoirs; stages near Crescent City during spring before migrating to breeding grounds | Roosts in large marshes, flooded fields, stock ponds, and reservoirs; forages in pastures, meadows, and harvested grain fields; corn is especially preferred | None. No records from CNDDB. Project study area outside of known distributional range of this species |
| White-tailed kite *Elanus leucurus* | --/FP | Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the border with Mexico | Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging | Low. No records from CNDDB. Suitable habitat identified in project study area |
| Ferruginous hawk *Buteo regalis* | SC/SSC | Does not nest in California; winter visitor along the coast from Sonoma County to San Diego County, eastward to the Sierra Nevada foothills and southeastern deserts, the Inyo-White Mountains, the plains east of the Cascade Range, and Siskiyou County | Open terrain in plains and foothills where ground squirrels and other prey are available | Low. However, suitable foraging habitat identified within the project study area. Could occur as a rare winter visitant to the project study area |

| Common and Scientific Name | *Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in Study Area |
|---|---|---|---|---|
| Bald eagle *Haliaeetus leucocephalus* | PD/E | Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin. Reintroduced into central coast. Winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County | In western North America, nests and roosts in coniferous forests within 1 mi. of a lake, reservoir, stream, or the ocean | High. Wintering bald eagles feed and roost around New Melones Reservoir and could use the project study area |
| American peregrine falcon *Falco peregrinus anatum* | D/E | Permanent resident along the north and south Coast Ranges. May summer in the Cascade and Klamath Ranges and through the Sierra Nevada to Madera County. Winters in the Central Valley south through the Transverse and Peninsular Ranges and the plains east of the Cascade Range | Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers, or marshes that support large prey populations | Likely rare visitant. No records from CNDDB. Suitable nesting and roosting habitat exists on the cliffs around Table Mountain. Good foraging habitat exists around New Melones Reservoir |
| Greater sandhill crane *Grus canadensis tabida* | --/T | Breeds in Siskiyou, Modoc, Lassen, Plumas, and Sierra Counties. Winters in the Central Valley, southern Imperial County, Lake Havasu National Wildlife Refuge, and the Colorado River Indian Reserve | Summers in open terrain near shallow lakes or freshwater marshes. Winters in plains and valleys near bodies of fresh water | None. No records from CNDDB. Project study area outside of known distributional range of this species |
| Mountain plover *Charadrius montanus* | --/SSC | Does not breed in California; in winter, found in the Central Valley south of Yuba County, along the coast in parts of San Luis Obispo, Santa Barbara, Ventura, and San Diego Counties; parts of Imperial, Riverside, Kern, and Los Angeles Counties | Occupies open plains or rolling hills with short grasses or very sparse vegetation; nearby bodies of water are not needed; may use newly plowed or sprouting grain fields | Low. No records from CNDDB. Potential habitat on Table Mountain |

| Common and Scientific Name | *Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in Study Area |
|---|---|---|---|---|
| Long-billed curlew *Numenius americanus* | --/SSC | Nests in northeastern California in Modoc, Siskiyou, and Lassen Counties. Winters along the coast and in interior valleys west of Sierra Nevada | Nests in high-elevation grasslands adjacent to lakes or marshes. During migration and in winter; frequents coastal beaches and mudflats and interior grasslands and agricultural fields | Low. No records from CNDDB. Potential rare winter visitant to shores of New Melones Reservoir. Not likely to occur within the project study area |
| Western burrowing owl *Athene cunicularia hypugea* | SC/SSC | Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast | Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows | High. Documented occurrences at New Melones Reservoir and surrounding lands |
| Vaux's swift *Chaetura vauxi* | --/SSC | Coastal belt from Del Norte County south to Santa Cruz County and in mid-elevation forests of the Sierra Nevada and Cascade Range | Nests in hollow, burned-out tree trunks in large conifers | Low. No records from CNDDB. Project study area outside known breeding distribution of this species |
| Black swift *Cypseloides niger (nesting)* | --/SSC | Breeds very locally in the Sierra Nevada and Cascade Range, the San Gabriel, San Bernardino, and San Jacinto mountains, and in coastal bluffs from San Mateo County south to near San Luis Obispo County | Nests in moist crevice or cave on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons | None. Project study area outside of known distributional range of this species |
| Costa's hummingbird *Calypte costae* | SC/-- | Common and widespread in southern California, but also breeds locally along the western edge of the San Joaquin Valley and the eastern edge of the Sierra Nevada north through Inyo County. Has nested in Monterey County since 1981, and occurs regularly in spring and summer in Siskiyou County. In winter, largely restricted to the southern coast, but also winters on southern deserts. There is upslope movement after breeding and during fall migration | Occurs in more arid habitats than other hummingbirds in California. Primary habitats are desert wash, edges of desert riparian and valley foothill riparian, coastal scrub, desert scrub, desert succulent shrub, lower-elevation chaparral, and palm oasis | Likely. Suitable foraging habitat identified within the project study area |

| Common and Scientific Name | *Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in Study Area |
|---|---|---|---|---|
| Rufous hummingbird *Selasphorus rufus* | SC/-- | A common migrant and uncommon summer resident of California. A rare, but probably regular, winter resident in southern California | Found in a wide variety of habitats that provide nectar-producing flowers; uses valley foothill hardwood, valley foothill hardwood-conifer, riparian, and various chaparral habitats in both northward and southward migration; montane riparian, aspen, and high mountain meadows used in southward migration | Possible. No records from CNDDB. Suitable habitat within the project study area |
| Lewis' woodpecker *Melanerpes lewis* | SC/-- | Eastern slopes of the Coast Ranges south to San Luis Obispo County. Winters in the Central Valley, Modoc Plateau, and the Transverse and other Ranges in southern California | Uncommon, local winter resident occurring in open oak savannahs, broken deciduous, and coniferous habitats | High. Documented occurrence in PWMA |
| Nuttall's woodpecker *Picoides nuttallii* | SLC/-- | Central Valley, Transverse and Peninsular Ranges, Coast Ranges north to Sonoma County and rarely to Humboldt County, and in lower portions of the Cascade Range and Sierra Nevada | Common, permanent resident of low-elevation riparian deciduous and oak habitats | High. Documented occurrence in PWMA |
| Little willow flycatcher *Empidonax trailii brewsteri* | --/E (spp) | 2,000–8,000 feet in the Sierra Nevada and Cascade Range. May still nest elsewhere in lowland California, as in San Diego County, but definite records are lacking | A rare to locally uncommon, summer resident in wet meadow and montane riparian habitats. Most often occurs in broad, open river valleys or large mountain meadows with lush growth of shrubby willows | Not likely. No records from CNDDB. Project study area outside of known distributional range of this species |
| Loggerhead shrike *Lanius ludovicianus* | --/SSC | Resident and winter visitor in lowlands and foothills throughout California. Rare on coastal slope north of Mendocino County, occurring only in winter | Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches | High. Documented occurrence at New Melones Reservoir and surrounding lands |

| Common and Scientific Name | *Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in Study Area |
|---|---|---|---|---|
| Oak titmouse *Baeolophus inornatus* | SLC/-- | Cismontane California, from the Mexican border to Humboldt County. Range encircles San Joaquin Valley, extending east from the coast through Kern County onto the western slope of the Sierra Nevada north to Shasta County | Occurs in montane hardwood-conifer, montane hardwood, blue, valley, and coastal oak woodlands, and montane and valley foothill riparian habitats. | Likely. No records from CNDDB. Potential breeding chaparral habitat identified within the Shell Road Corridor |
| California thrasher *Tososstoma redivivum* | SC/-- | Common resident of foothills and lowlands in cismontane California | Moderate to dense chaparral habitats and, less commonly, extensive thickets in young or open valley foothill riparian habitat. In southern California, occurs in montane chaparral as high as 5,000 to 6,600 feet. Avoids dense tree canopy | High. Documented occurrence in PWMA |
| Bell's sage sparrow *Amphispiza belli belli* | SC/SSC | Western Sierra foothills from El Dorado County south to Mariposa County, inner Coast Ranges from Shasta County southward, extending to vicinity of coast from Marin County to San Diego County; from southern San Benito County to San Bernardino County | Prefers chaparral habitats dominated by chamise | Low. No records from CNDDB. Potential chaparral habitat identified within the Shell Road corridor |
| Tricolored blackbird *Agelaius tricolor* | SC/SSC | Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties | Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony | High. CNDDB record (sensitive) within 10 mi. of project study area |

| Common and Scientific Name | *Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in Study Area |
|---|---|---|---|---|
| Lawrence's gpldfinch C*arduelis lawrencei* | SC/-- | Common along western edge of southern deserts, fairly common but erratic from year to year in Santa Clara County and on coastal slope from Monterey County south, and uncommon in foothills surrounding Central Valley | Breeds in open oak or other arid woodland and chaparral, near water. Rarely breeds along immediate coast. Typical habitats include valley foothill hardwood, valley foothill hardwood-conifer, and, in southern California, desert riparian, palm oasis, pinyon-juniper, and lower montane habitats | Likely uncommon visitant. No records from CNDDB. Suitable habitat within the project study area |
| **Mammals** | | | | |
| Small-footed myotis *Myotis ciliolabrum* | SC/-- | Occurs in the Sierra Nevada, south Coast, Transverse, and Peninsular Ranges, and in the Great Basin | Open stands in forests and woodlands, as well as shrub lands and desert scrub. Uses caves, crevices, trees, and abandoned buildings | Low. No records from CNDDB. Suitable day and night roosting identified in rock crevices in cliffs in project study area |
| Long-eared myotis *Myotis evotis* | SC/-- | Occurs throughout California except the southeastern deserts and the Central Valley | Occurs primarily in high elevation coniferous forests, but also found in mixed hardwood/conifer, high desert, and humid coastal conifer habitats | Low. No records from CNDDB. Suitable day and night roosting and foraging habitat identified in project study area. |
| Fringed myotis *Myotis thysanodes* | SC/-- | Occurs throughout California except the southeastern deserts and the Central Valley | Found in a wide variety of habitats from low desert scrub to high elevation coniferous forests. Day and night roosts in caves, mines, trees, buildings, and rock crevices | Low. No records from CNDDB. Suitable day and night roosting and foraging habitat identified in project study area |
| Long-legged myotis *Myotis volans* | SC/-- | Mountains throughout California, including ranges in the Mojave desert | Most common in woodlands and forests above 4,000 feet, but occurs from sea level to 11,000 feet | Low. No records from CNDDB. Suitable day and night roosting and foraging habitat identified in project study area |
| Yuma myotis *Myotis yumanensis* | SC/-- | Common and widespread throughout most of California except the Colorado and Mojave deserts | Found in a wide variety of habitats from sea level to 11,000 feet, but uncommon above 8,000 feet. Optimal habitat is open forests and woodlands near water bodies | Low. No records from CNDDB. Suitable day and night roosting identified in rock crevices in cliffs in project study area |

| Common and Scientific Name | *Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in Study Area |
|---|---|---|---|---|
| Spotted bat *Euderma maculatum* | SC/SSC | Occurs throughout eastern and southern California, the central Sierra Nevada, and the Sierra Nevada foothills bordering the San Joaquin Valley. One recent record from northern California in the Trinity Alps. Probably occurs in other portions of the state where habitat is suitable | Found in a wide variety of habitats from low desert to high elevation coniferous forest, primarily in areas associated with cliff and canyon habitat. Females may favor ponderosa pine forests during reproduction | Low. No records from CNDDB. Potential habitat in rock crevices on cliffs of Table Mountain |
| Pacific Townsend's (=western) big-eared bat *Corynorhinus townsendii townsendii* | SC/SSC | Coastal regions from Del Norte County south to Santa Barbara County | Roosts in caves, tunnels, mines, and dark attics of abandoned buildings. Very sensitive to disturbances and may abandon a roost after one on-site visit | High. CNDDB record approximately 2.5 mi. east of project study area. Suitable day and night roosting identified in rock crevices in cliffs in project study area |
| Greater western mastiff bat *Eumops perotis californicus* | SC/SSC | Occurs along the western Sierra primarily at low to mid-elevations and widely distributed throughout the southern coast ranges. Recent surveys have detected the species north to the Oregon border | Found in a wide variety of habitats from desert scrub to montane conifer. Roosts and breeds in deep, narrow rock crevices, but may also use crevices in trees, buildings, and tunnels | High. CNDDB documented colony at the Grotto within the project study area |
| San Joaquin pocket mouse *Perognathus inornatus* | SC/-- | Occurs throughout the San Joaquin Valley and in the Salinas Valley | Favors grasslands and scrub habitats with fine-textured soils | Low. No records from CNDDB. On the eastern edge of known distribution. Suitable habitat occurs within the project study area |
| Merced kangaroo rat *Dipodomys heermanni dixoni* | SC/-- | Eastern Merced County | Grassland and shrub habitats | Not likely. No records from CNDDB. Project study area outside of known distributional range of this species |
| San Joaquin kit fox *Vulpes macrotis mutica* | E/T | Principally occurs in the San Joaquin Valley and adjacent open foothills to the west; recent records from 17 counties extending from Kern County north to Contra Costa County | Saltbush scrub, grassland, oak, savanna, and freshwater scrub | Low. No records from CNDDB. Known to occur in Central Valley and adjacent eastern foothills. Suitable oak woodland savannah and grassland habitat occurs within the project study area |

| Common and Scientific Name | *Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in Study Area |
|---|---|---|---|---|

*Status explanations:

**Federal**

E = listed as endangered under the federal Endangered Species Act.

T = listed as threatened under the federal Endangered Species Act.

SC = species of concern; species for which existing information indicates it may warrant listing but for which substantial biological information to support a proposed rule is lacking.

SLC = species of local concern.

PD = proposed for delisting.

D = delisted.

– = no listing..

**State**

E = listed as endangered under the California Endangered Species Act.

T = listed as threatened under the California Endangered Species Act.

P = protected.

FP = fully protected under the California Fish and Game Code.

SSC= species of special concern in California.

– = no listing.

Potential Occurrence in the Study Area

High: Known occurrences of the species within the study area or CNDDB, or other documents, records the occurrence of the species within a 10-mile radius of the study area. Suitable habitat is present within the study area.

Moderate: CNDDB, or other documents, records the known occurrence of the species within a 10-mile radius of the study area. Poor quality suitable habitat is present within the study area.

Low: CNDDB, or other documents, does not record the occurrence of the species within a 10-mile radius of the study area. Suitable habitat is present within the study area.

**Figure 4-2a.** Off-road vehicle damage along PWMA Access Road in closure area. January 2002.

**Figure 4-2b.** Restoration of off-road vehicle damage along PWMA Access Road in closure area. May 2003.

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**Figures 4-2a and 4-2b**
**Off-Road Vehicle Impacts and Restoration along PWMA Access Road**

**Figure 4-3a.** Off-road vehicle damage inside PWMA closure area. January 2002.

**Figure 4-3b.** Restoration of off-road vehicle damage inside PWMA closure area. May 2003.

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**Figures 4-3a and 4-3b**
**Off-Road Vehicle Impacts and Restoration along PWMA Access Road**

resources management, and discusses the significance of the resources in or adjacent to the project area.

*Cultural resources* is a term used to describe several different types of properties including prehistoric and historical archaeological sites; architectural properties such as buildings, bridges, and infrastructure; and resources important to Native Americans.

# Applicable Regulations, Approvals, and Permits

As a federal agency, Reclamation is required to comply with Section 106 of the National Historic Preservation Act of 1966 (NHPA) and its implementing regulations at *36 CFR Part 800*. The Archaeological Resources Protection Act and the Native American Graves Protection and Repatriation Act (NAGPRA) are also applicable on federal lands. Section 106 of the NHPA requires that federal agencies consider the effects of their actions, including activities they fund or permit, on properties that may be eligible for listing or are listed in the National Register of Historic Places (NRHP). Resources listed in the NRHP, or those found eligible for listing, are termed *historic properties.* To determine whether an undertaking could affect historic properties, cultural resources (including archaeological, historical, and architectural properties) must be inventoried and evaluated for eligibility to the NRHP. As the lead federal agency, Reclamation is ultimately responsible for all project-related Section 106 compliance, including all findings and determinations, although the supporting documentation necessary for compliance may be prepared by others. Section 106 requires that Reclamation consult with the State Historic Preservation Officer (SHPO) and any other participating consulting parties throughout the process

The Section 106 review process involves a four-step procedure:

- Initiate the Section 106 process by establishing the undertaking, developing a plan for public involvement, and identifying other consulting parties.
- Identify historic properties by determining the scope of efforts, identifying cultural resources, and evaluating their eligibility for inclusion in the NRHP.
- Assess adverse effects by applying the criteria of adverse effect on historic properties identified in the area of potential effects.
- Resolve adverse effects through consultation with the SHPO and other consulting parties, including the Advisory Council on Historic Preservation (if participating), to develop an agreement that establishes the measures that will be taken to avoid, minimize, or mitigate the adverse effects.

To qualify for listing in the NRHP, a property must represent a significant theme or pattern in history, architecture, archaeology, engineering, or culture at the local, state, or national level. It must meet one or more of the following four criteria and have sufficient integrity to convey its historic significance. The criteria for evaluation of the eligibility of cultural resources for listing in the NRHP are defined in *36 CFR 60.4* as follows:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

a. that are associated with events that have made a significant contribution to the broad patterns of our history; or

b. that are associated with the lives of persons significant in our past; or

c. that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d. that have yielded, or may be likely to yield, information important in prehistory or history.

# Cultural Setting

## Prehistory

Although archaeological studies in the Sierra Nevada were initiated early in the century in efforts to define the antiquity of man in the Western Hemisphere (Moratto 1984), it was not until the 1950s and, more particularly, during the period following the 1960s, that systematic investigations in the region supplied data as a basis for more secure constructions of chronologies and of models of cultural change.

Archaeological interest in the central Sierra Nevada began with the discovery of a wide range of prehistoric remains during the California Gold Rush era of the 1850s and 1860s. The "Calaveras skull" found near Angels Camp, another skull found in a mining area near Columbia, and the debate over "Eocene Man" in the 1880s marked the origins of California archaeology (Moratto 1984). Investigations during the first half of the twentieth century were often cursory at best and resulted primarily in the description of sites that were discovered accidentally, usually involving exposure of human remains. In the last 50 years, systematic archaeological inventory and large-scale salvage archaeology excavations related to water-control projects have resulted in the accumulation of a substantial body of scientific data (Ziesing and Fryman 1993).

Despite the considerable amount of archaeological work, a clear picture of regional prehistory has not been formulated. The most comprehensive and valuable contribution to our understanding of local prehistory comes from research conducted for the New Melones Dam project (Moratto et al. 1983; Payen et al. 1969). Excavations of several stratified sites have yielded enough data to establish the following eight-phase sequence spanning more than 6,000 years (Moratto 1984):

- Stanislaus (over 6,000 yrs. BP),
- Texas Charley (4,600–6,000 yrs. BP),
- Calaveras (3,000–4,600 yrs. BP),
- Sierra (1,500–3,000 yrs. BP),
- Redbud (750-1,500 yrs. BP),
- Horseshoe Bend (300–750 yrs. BP),
- Wuyu (150–300 yrs. BP), and
- Ethnographic Miwok (less than 150 yrs. BP)

These phases are based on evidence of cultural and technological changes as seen in the archaeological record. Some of the cultural changes are a result of trait diffusion while others have been linked to local adaptive shifts or population replacement. Several other interesting observations have been made by Moratto (1984) regarding archaeological data generated from the New Melones project, including the persistence of Native American use of traditional foods, tools, structures, and mortuary practices until after the 1880s. Moratto states that this is evidence showing parts of the New Melones area may have been a sort of "refuge" for displaced Native Americans from around the region (Moratto 1984:313–314). Refinement of the local chronological sequence will continue as investigations of stratified sites within the central Sierra Nevada are documented.

# Ethnography

## Eastern Miwok

The following is largely adapted from a descriptive summary for the Eastern Miwok, compiled by R. Levy (1978). The Eastern Miwok are composed of the Bay, Plains, and Sierra Miwok. The Bay Miwok occupied the eastern portions of what is now Contra Costa County, from Mt. Diablo northeast into the Sacramento–San Joaquin River Delta. The Plains Miwok inhabited the lower reaches of the Mokelumne and Cosumnes Rivers and the banks of the Sacramento River from Rio Vista to Freeport. The Sierra Miwok inhabited the foothills and higher mountains of the Sierra. Culturally, the Bay Miwok were probably more similar to the Plains Miwok than to the Sierra Miwok.

The primary political unit was the tribelet. Composed of several semisedentary settlements and numerous seasonally occupied camps, the tribelet represents an independent, sovereign nation that defined and defended a territory. Lineages were also of political significance, consisting of localized groups named for a specific geographic locality, usually a permanent settlement. However, the names and numbers of such lineage settlements remain largely unknown, due in large part to the depopulation or relocation of the Miwok during the eighteenth century.

The basic subsistence strategy of the Eastern Miwok was mobile hunting and gathering. This was motivated by seasonal variations in resource availability, which forced the Miwok to exploit resources outside the immediate vicinity of their permanent settlements. Lacking any substantive cultivation technology or animal domestication, Miwok sustenance relied heavily on the gathering of wild plant foods and hunting varieties of mammals. Of the vegetal resources gathered, the numerous varieties of acorns were highly sought after and harvested widely. Nuts such as buckeye, sugar pine, and Sierra pine were collected and stored to augment unexpected poor acorn harvests. Seeds, roots, and various green plants served to round out the bulk of the vegetal resources exploited by the Miwok.

The Miwok hunted, trapped, and fished for numerous varieties and combinations of resources throughout the mountain regions, foothills, and plains. Because the Miwok tended to live in geographically distinct regions, each group placed higher premiums on more locally obtainable resources. Some of the more prized game animals hunted by the Sierra groups included bear species. Foothill groups hunted deer and elk, and the Plains groups exploited the antelope and elk. In addition to larger game animals, the eastern Miwok hunted and trapped smaller mammals, rodents, birds and waterfowl to supplement their diet. Salmon was successfully fished by the Plains Miwok, as was trout by the Sierra people. Some geographic crossover for resource procurement is likely to have occurred, with groups occasionally hunting in neighboring territories.

Miwok technology included bone, stone, antler, wood, and textile tools. Hunting was accomplished with the use of the bow and arrow, in addition to traps and snares. Basketry items included seed beaters; cradles; sifters; rackets used in ball games; and baskets for storage, winnowing, parching, and carrying burdens. Other textiles included mats and cordage. Tule balsas were constructed for navigation on rivers.

With the arrival of trappers, gold miners, and settlers to California, the Miwok suffered exposure to introduced diseases. Although this early contact with settlers had a destructive impact on the Miwok population, relationships with settlers varied. While some hostilities occurred between the Sierra Miwok and miners, some of the Plains Miwok became involved in agricultural operations on the large land grants, then coming into existence. After California was annexed by the United States, some of the Miwok were displaced to Central Valley locations, yet many remained on the rancherias established in the Sierra Nevada foothills. During the final decades of the nineteenth century and early years of the twentieth century, the Miwok living on the foothill rancherias adapted to a new lifestyle. Subsistence through hunting and gathering was now augmented by seasonal wage labor on ranches and farms. As the reliance upon a cash income increased, traditional subsistence practices suffered. Nonetheless, persons of Miwok descent still survive today and maintain strong communities and action-oriented organizations.

# History

The history of the New Melones area generally revolves around resource exploitation including timber, water, agriculture, and most importantly, gold. These endeavors, and the processes through which they were conducted, greatly shaped the region's culture and geography. The discovery of gold and the subsequent Gold Rush in 1848 intensified settlement throughout the region, with emphasis placed on mining and various support service such as transportation and trading posts (Hoover et al 1990).

## Mining

By the end of 1849, over 10,000 individuals had immigrated to the Stanislaus River area (Hall 1978). An important aspect of the Gold Rush in the Stanislaus River area was the diverse ethnic composition of these immigrants. Included among them were Hispanics, Chinese, African Americans, and many Europeans from various countries. This clash of cultures often resulted in racial conflict and open acts of prejudice by Euroamericans (Moratto et al. 1988). Settlements began popping up throughout the region, including important centers such as Sonora and Columbia.

In the early years of the Gold Rush, miners working primarily alone extracted gold deposits using picks, shovels, and gold pans. Later, ground sluicing and hydraulic mining became the most prevalent gold recover methods. Ground sluicing used low-pressure natural or artificial water channels to excavate gold-bearing gravels. In the 1860s, miners used hydraulic mining techniques that used powerful jets of water to expose gold-bearing earth or gravel. After 1884, lode mining—the extraction of gold that occurs as a ledge or vein in quartz deposits—became the principal source of gold recovery in the northern Sierra Nevada gold fields.

Advancements in underground mining technology in the 1890s increased production for the gold mining industry. This mining boom was short lived, however, because of national and worldwide declines in gold values. A brief revival of mining activity took place in the 1930s, when the price of gold rose and many individuals feeling the effects of the Great Depression sought alternative sources of income. Still, the mining industry has never regained the success seen during the Gold Rush (Clark 1970).

## Transportation

Because raw material production depended heavily on exporting and importing large quantities of materials and supplies, transportation played an important role in the development of the region. A network of roads and waterways was established for the conveyance of people and goods almost overnight. These transportation systems included dirt roads and trails built to accommodate mule trains, freight wagons, stagecoaches, and pedestrians. Ferry crossings were

established at several points along the Stanislaus River. These river crossings were crucial for communication between towns and the continuous movement of goods (Moratto et al. 1988).

From the earliest days of the historic period, it was necessary to get from one place to another as easily as possible, and certainly the Native American trails provided some initial routes. These trails were gradually expanded and improved for the greatly increased use they had to bear, from pedestrian traffic to pack trains and wagons to, ultimately, motor vehicles. Some of the major roads developed during the Gold Rush era have been improved for modern purposes but still follow the same route including Highway 49 and Parrots Ferry Road. Other roads, such as Reynolds Ferry Road and Green Springs Road, have ceased to be traveled regularly but are used by area ranchers and other locals. Many of the original roads are now overgrown and barely discernable, reminders of former routes between unknown spots.

## Prefield Methods

As part of the identification efforts prescribed by regulations implementing Section 106 of the NHPA (*36 CFR Part 800*), a records search was conducted at the Central California Information Center (CCIC) of the California Historical Resources Information System (CHRIS) at California State University, Stanislaus, on January 12, 2005. CCIC manages the State of California's database of previous cultural resource studies and known cultural resources for the Tuolumne County area. The state's database of previous studies and known cultural resources sites, pertinent historical inventories, and historic maps were consulted as part of the records search. CHRIS, combined with the published literature on California's cultural resources, forms the baseline or existing conditions for cultural resources in environmental reviews.

In addition to the database of previous studies and known resources, the records search included review of NRHP, the California Register of Historical Resources (CRHR), *California Historical Landmarks*, *California Points of Historical Interest*, the California Office of Historic Preservation's Historic Resource Inventory listings for Tuolumne County, and historic maps and secondary historical sources.

## PWMA Access Road Corridor

The records search revealed that the PWMA access road corridor project area is within the boundaries of the New Melones Archaeological District (P-55-007282). Evaluation of the New Melones Archaeological District was completed in 1988 after extensive survey and recordation efforts. It was determined that the period of significance for the district spans from 8,000 B.C. through A.D.1950, encompassing both prehistoric and historic periods. In total, 627 cultural resources were found to be contributing elements to the district. A total of two previous archaeological studies have been conducted within this project area,

with both studies encompassing the entire project area. Both studies (Baker et al. 1997; Moratto et al. 1988) were conducted more than 10 years ago. Because of the age of these studies, it was necessary to resurvey the current project area.

Research on historic General Land Office (GLO) plats for the project area revealed that Green Springs Road, now called Shell Road, is referenced on Sheet 41-029, dated 1855–1907. No previously recorded cultural resources were found to be located in the current project area, but there are 30 resources within 0.5 mile of the project area. Twenty-nine of them have been determined eligible for listing in the NRHP as contributing elements of the New Melones Archaeological District. Of these 29 sites, 10 are prehistoric resources that include milling features, lithic scatters, petroglyphs, house pits, and midden. The remaining 19 sites are historic resources including tailings, rock walls and dams, mine shafts, flume remnants, and "mining complexes." A portion of Green Springs/Shell Road (P-55-0073), located just north of the project area and outside the archaeological district boundaries, was recorded in 1993 but has not been evaluated. The results of the records search are on file at Reclamation's New Melones Office.

## P-55-0073 Shell/Green Springs Road

This resource is a 1.3-mile portion of the historic Green Springs Road, which is now called Shell Road. This portion of the road is unpaved and courses southwesterly from Rawhide Road in Rawhide along the western base of Table Mountain to its eventual terminus at Green Springs where it met the Stockton and Yosemite Roads. According to the primary record, a previously recorded portion of the road that lies outside the project area (recorded by Davis-King in 1993) was established at least by 1854 and used extensively by people from Columbia who traveled it to O'Byrne's Ferry on the Stanislaus River. The road is also referenced on historic GLO plats Sheet 41-029, dated 1855–1907. The road was not listed in the NRHP registration form for New Melones as a contributing element likely due to oversight.

The segment of P-55-0073 within the project area is currently being evaluated for listing in the NRHP under criteria (a) as a contributor to the New Melones Archaeological District. Because it is still a dirt road built at least before 1854, it is in a rural setting very similar to when it was initially constructed, and the course appears to have not been altered since its construction, integrity and feeling are good. The road played an important role in transportation for early Euroamerican development of the area and thus is associated with events that have made a significant contribution to the broad patterns of our history. Given this, P-55-0073 is recommended eligible for the NRHP under criteria (a) as a contributor to the New Melones Archaeological District (Jones & Stokes 2006).

# Parking and Trailhead Areas

Records search results for the parking and trailhead project areas revealed that it is within the New Melones Archaeological District (P-55-7282), which has been determined eligible for the NRHP. The records search also revealed that one previous cultural resource project (Moratto et al. 1988) was conducted within the project area. Because the project took place more than 10 years ago, it was necessary to resurvey the current project area. The records search also revealed 29 previously recorded cultural resources within a 0.5-mile radius of this area. Twenty-seven of these resources have been determined eligible for listing in the NRHP as contributing elements of the New Melones Archaeological District. Two resources are located outside of the archaeological district and thus are not contributing elements. Of these 29 resources, 20 are historic era and 9 are prehistoric. Types of historic-era resources present include a railroad grade, a barn, mine shafts, rock walls, rock structures, and tailings. Prehistoric resources include milling features, inhumations, middens, lithic scatters, and house pits. The records search also revealed that one cultural resource, P-55-001473, was found to be located within the project area. These results of the records search are on file at the Reclamation's New Melones Office.

## P-55-001473

This resource is a series of three historic prospect pits and associated tailings piles. No artifactual remains were noted at the site. The prospect pits range in size from 10 feet (3 meters) to 15.7 feet (4.8 meters) in width and 1.6 feet (.5 meter) to 6.6 feet (2 meters) in depth. The site as a whole is 131 feet (40 meters) north to south by 33 feet (10 meters) east to west in size. Recorded by Stewart in 1975, the site was found to be eligible for listing on the NRHP as a contributor to the New Melones Archaeological District.

# Native American Consultation

On January 10, 2005, Jones & Stokes requested a search of the sacred lands database and a list of Native American representatives with knowledge of cultural resources in the project area vicinity from the NAHC. On January 22, 2005, the NAHC provided a list of four local Native American representatives. A search of the sacred lands database did not indicate the presence of any sacred lands or sites within the project area.

On January 24, 2005, a Jones & Stokes archaeologist sent letters, accompanied by maps showing the location of the project area, to the Native American representatives identified by the NAHC. As of May 22, 2006, no information regarding cultural resources has resulted from this consultation. Chapter 5, *Consultation and Coordination,* contains the correspondence exchanged with the NAHC and Native American representatives.

## Archaeological Field Survey

### Methods

An intensive pedestrian survey of the project area (Figure 1-2) was conducted by Jones & Stokes archaeologists on January 14, 2005. The entire project area was surveyed in 10-meter (approximately 30-feet) transects to ensure maximum coverage. Survey conditions and visibility were excellent within the PWMA access road corridor with the exception of the two parking areas. The parking area on the southwest side of the project area had poor to fair (25 to 75%) visibility due to an abundance of fresh grasses. The proposed parking area on the northeast side of the project area had poor (<25%) visibility due to an abundance of grasses. Visibility was poor to medium (<25 to 75%) within the parking and trailhead segment of the project area as fresh grass obscured the ground surface with some patches of soil and bedrock outcrops . The total area surveyed is approximately 31 acres.

### Results

Because prefield research indicated that the portion of PWMA access road within the project area is a cultural resource, the road was recorded and all pertinent information was put on a Department of Parks and Recreation Continuation Sheet and Linear Feature Record that will be added to the original primary record (P-55-0073) for Shell Road/Green Springs Road. This record will be included in the appendix of the technical report being prepared by Jones & Stokes (2006) outlining the effort put forth to identify NRHP-eligible properties within the project area. P-55-001473 was relocated during the field survey. The resource is in good condition and has not been altered in any way since it was originally recorded. Because of this, the original site record is adequate and preparation of an update was not necessary. No other previously unrecorded cultural resources were found to be located within the project area as a result of the survey.

# VI. Agricultural and Regional Economics

The description of existing conditions relative to agriculture and regional economics in the PWMA access road corridor project area is based primarily on site visits and information from the DRMP (U.S. Bureau of Reclamation 1996).

There is minimal agriculture in or around the project site. Grazing occurs on private lands adjacent to the project area and there are some designated grazing areas within the New Melones Reservoir resource management area. Reclamation has historically leased 4,394 acres of land for purposes of grazing livestock (U.S. Bureau of Reclamation 1996). There are no designated grazing areas within the PWMA access road corridor.

The project is located in Tuolumne County in the foothills of the Sierra Nevada. There are approximately 25 people per square mile and the median household income is $38,725 (U.S. Bureau of the Census 2004) within Tuolumne County. The area near the PWMA access road corridor is very rural. There is limited economic activity associated with recreation in the project area because there are few businesses near the area, none of which are recreation-related. Additionally, there are no businesses located within the PWMA access road corridor. The closest town is Jamestown, located approximately 5 miles from the project site.

# VII. Visual Resources

The description of existing visual/aesthetic conditions in the PWMA access road project area is based primarily on direct field observations, photographic documentation, and information in the Interim Plan.

## New Melones Reservoir

New Melones Reservoir (Figure 1-2 ) is located in Calaveras and Tuolumne Counties in the foothills of the western slope of the Sierra Nevada. The region is characterized by rolling hills and small valleys (Figure 4-4a) with occasional rock outcrops. The dominant natural vegetation is annual grassland and native oak woodlands occurring in varying densities. The tree canopy cover and species diversity increases in small draws and valley bottoms where the moisture is more readily available. The contrasts in form, color, and texture of this vegetation add visual variety and interest to the foothill landscape. The area is a rural, pastoral landscape of rangeland and open space, with residences scattered throughout the foothills. State Route (SR) 108, located southeast of the project site, traverses these foothills from west to east, while SR 49 crosses the Stanislaus River from north to south. Several rural roads traverse the project area. The main water features include New Melones Reservoir and the Stanislaus River.

The reservoir has a capacity of 2.4 million acre-feet at a gross pool elevation of 1,088 feet, a water surface area of 12,500 acres, and 100 miles of shoreline (U.S. Bureau of Reclamation 2004). Its two main arms extend northwest and southeast. The built environment surrounding the reservoir is limited, consisting of roads and reservoir facilities (including the dam and recreation facilities). Scattered throughout the reservoir are several unimproved dirt roads and trails.

Major viewer groups of the reservoir and reservoir facilities are the residents of nearby areas, recreationists using the reservoir, and facility staff members. For these viewer groups, exposure and sensitivity is relatively high. Overall, views associated with the reservoir are vivid because they are not typical of the roadside scenery in the area; they are intact because the area is a rural, open-space environment free from encroaching elements; and are unified because the existing landscape is congruent and harmonious in terms of scale, color, and form.

**Figure 4-4a.** New Melones Reservoir and Surrounding Vegetation.

**Figure 4-4b.** View of New Melones Reservoir from PWMA Access Road.

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**Figures 4-4a and 4-4b**
**New Melones Reservoir Views**

## PWMA Access Road Corridor

The PWMA access road corridor runs through both private and Reclamation-owned land. Shell Road adjoins the access road from the north (Figure 1-2), and a ranch road extends from the access road to the south along the corridor. The dominant natural vegetation is annual grassland and native oak woodlands occurring in varying densities. Grazing cattle also occupy areas along the PWMA access road corridor. The road is paved in sections, but not maintained. There are four residences located along the corridor outside Reclamation land.

Distant views are often restricted by the natural vegetation and topography in the area. Overall, views associated with the PWMA access road corridor are vivid (Figures 4-4a and 4-4b) because they are not typical of the roadside scenery in the area; they are intact because the area is a rural, open-space environment free from encroaching elements; and they are unified because the existing landscape is congruent and harmonious in terms of scale, color, and form.

# VIII. Surface and Ground Water (Including Water Quality)

This section provides a description of existing soil characteristics and erosion conditions along the PWMA access road corridor, and the possible effects the Proposed Action would have on the soils and soil erosion rates.

## Surface and Ground Water Movement

Precipitation in the project area occurs primarily in the form of rain during the winter rainy period (generally November–December through April–May). Because of the low elevation of the project area (about 1,300 feet), snowfall is infrequent and snow melts rapidly after such events. Summer thundershowers involving intense precipitation also occur infrequently. The mean annual precipitation in the project area is 20 to 40 inches.

The project area is mountainous. PWMA access road in the project area is constructed on the slopes below Table Mountain and above New Melones Reservoir. Slopes range from 15% to 40% toward the reservoir. The road is near the reservoir, lying only 400 to 1,000 feet from the shoreline when the reservoir is full.

Soil conditions were described above under *Soils*. Soils give rise to rapid surface runoff where slopes are appreciable or soils are thin, or soils drain rapidly to the underlying bedrock interface where slopes are gentler and soils thicker. Underlying rock units (volcanic latite and breccia [volcanic mudflow], as well as metavolcanic and metasedimentary rocks) are relative impermeable, except where fractures exist, thereby causing infiltrating precipitation to become shallow

subsurface runoff. Both surface runoff and shallow subsurface runoff from the road corridor presumably flow relatively quickly to New Melones Reservoir.

Watershed functioning in the project area is degraded due to vegetation removal and soil exposure as a result of general human use as well as compaction of the road surface and adjacent areas that have been subjected to ORV use. Compaction of traveled surfaces greatly increases rates of runoff, and thereby induces rill and small gully erosion of exposed solids and downslope areas.

## Water Quality Conditions

Soils in the road corridor are presumably contaminated by pollutants from dumping of refuse and discharge of human bodily wastes over many years. Soil particles and presumably soil pollutants are mobilized during precipitation events, resulting in episodes of high levels of suspended sediment and unknown levels of pollutants in runoff reaching the reservoir. Some sediment is temporarily deposited on retaining landforms above the reservoir, but it is likely to eventually be remobilized and reach the reservoir.

Sediment and other pollutants presumably cause local contamination of reservoir waters (although such local contamination has not been measured). In general, however, water quality in New Melones Reservoir is quite good (see discussion below.) In fact, water is often released from the reservoir for the purpose of improving water quality in the San Joaquin River and the Sacramento-San Joaquin Rivers Delta.

## Water Quality in New Melones Reservoir

New Melones Reservoir was constructed by the U.S. Army Corps of Engineers and is operated by Reclamation as part of the federal Central Valley Project. It initially filled in 1982 and encompasses about 12 miles of the main stem of the Stanislaus River. It has a mean depth of about 200 feet and is very large, impounding up to 2.42 million acre-feet of water. The average discharge is about 7,000 cubic feet per second, which is drawn from a point near the bottom of the reservoir.

Historical water quality information for the reservoir is scarce; however, data was collected by Reclamation at the reservoir discharge in various seasons between November 1996 and November 1998 (11 samples). Table 4-4 shows the water quality data recorded during that time.

**Table 4-4.** Water Quality Data for New Melones Reservoir, November 1996 through November 1998

| Water Quality Parameter | Concentration |
|---|---|
| Total hardness | 22-25 milligrams per liter (mg/l) |
| Total suspended solids | <5 mg/l |
| Total dissolved solids | 32-62 mg/l |
| pH | 6.24-7.78 |
| Biostimulatory Substances | |
| Nitrate + nitrite (as N) | 0.08-0.17 mg/l |
| Unionized ammonia | <0.1 mg/l |
| Total phosphorous | <0.05 mg/l |
| Carbon oxygen demand | <10 mg/l |
| Trace metals | less than or slightly above detection limits |

Source: (Brown and Caldwell 1995)

These data indicate that, on average, water quality in New Melones is good. Levels of suspended and dissolved solids, bio-stimulatory substances (nutrients), and trace metals are low. pH is neutral (6.24 to 7.78) and buffering capacity is moderate.

# IX. Environmental Justice

*Environmental justice* is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This section describes the regulatory and environmental justice setting of the project study area and vicinity.

According to the U.S. Census Bureau, census tracts 51 and 52.01, which lie on either side of the project corridor, encompass large geographic areas (40 miles across each) that are largely unpopulated. The nearest communities include Jamestown (population 3,017) and Chinese Camp (population 146), approximately 5 miles east and approximately 12 miles southeast of the PWMA access road corridor, respectively (U.S. Bureau of the Census 2000). The City of Sonora, which has an approximate population of 4,423 (U.S. Bureau of the Census 2000), is located northeast of Jamestown and approximately 8 miles from the project corridor.

Although there are several communities within 5 to 10 miles of the project corridor, the immediate area surrounding the corridor is sparsely populated. A Jones & Stokes site visit revealed that there were only a handful of residences (four mailboxes observed) in the vicinity of the project corridor, specifically along the ranch road south of the PWMA access road.

According to the Census 2000, census tract 51, which comprises the communities of Sonora and Jamestown and part of its western border is defined by the PWMA access road, has a total population of 7,596 of which approximately 88% are White and 10% are Hispanic or Latino. Other minority populations in census tract 51, including Black or African American, American Indian and Alaskan Native, Asian, and Native Hawaiian and Other Pacific Islander, each comprise less than 1% of the total population, making up the remaining 2%. (U.S. Bureau of the Census 2000).

Similarly, census tract 52.01, which includes the China Camp, has a total population of 5,630, of which approximately 53% are White, 26% are Hispanic or Latino, 17% are Black or African American, and 2% are American Indian and Alaskan Native. Other minority populations, including Asian and Native Hawaiian and Other Pacific Islander, comprise 1% and less than 1% of the total population, respectively (U.S. Bureau of the Census 2000).

# X. Air Quality

The existing air quality conditions in the proposed action area can be characterized by monitoring data collected in the region. Air Quality monitoring data for the last three years (2001–2003) are presented in Table 4-5. The nearest air quality monitoring stations to the action area are the Sonora Barretta Street and Five Mile Learning Center Monitoring Stations. As indicated in Table 4-5, occasional violations of the 1- and 8-hour ozone standards have occurred during the 3-year monitoring period for which complete monitoring data is available.

Areas are classified as either attainment or nonattainment areas with respect to federal ambient air quality standards. These classifications are made by comparing actual monitored air pollutant concentrations to federal standards. If a pollutant concentration is lower than the federal standard, the area is classified as being in attainment of the standard for that pollutant. If a pollutant violates the standard, the area is considered a nonattainment area. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated unclassified. This occurs in non-urbanized areas where levels of the pollutant are not a concern. The EPA has designated the Tuolumne County portion of the Mountain Counties Air Basin as a subpart 1 non-attainment area for the 8-hour ozone standard. The county is designated as an unclassified/attainment area for the 1-hour ozone, CO, and PM10 federal standards. Tuolumne County's attainment status for each of these pollutants relative to NAAQS is shown in Table 4-6.

**Table 4-5.** Ambient Air Quality Monitoring Data Measured at the Sonora Baretta Street and Five Mile Learning Center Monitoring Stations

| Pollutant Standards | 2001 | 2002 | 2003 |
|---|---|---|---|
| **Ozone ($0_3$) – Five Mile Learning Center Station** | | | |
| Maximum 1-hour concentration (ppm) | 0.109 | 0.116 | NA |
| Number of days standard exceeded[a] | | | |
| NAAQS 1-hour (>0.12 ppm) | 0 | 0 | NA |
| CAAQS 1-hour (>0.09 ppm) | 2 | 13 | NA |
| **$O_3$ – Five Mile Learning Center Station** | | | |
| Maximum 8-hour concentration (ppm) | 0.097 | 0.101 | NA |
| Number of days standard exceeded[a] | | | |
| NAAQS 1-hour (>0.08 ppm) | 5 | 22 | NA |
| **$O_3$ – Sonora Baretta Street Station** | | | |
| Maximum 1-hour concentration (ppm) | 0.109 | 0.132 | 0.116 |
| Number of days standard exceeded[a] | | | |
| NAAQS 1-hour (>0.12 ppm) | 0 | 1 | 0 |
| CAAQS 1-hour (>0.09 ppm) | 4 | 11 | 8 |
| **$O_3$ – Sonora Baretta Street Station** | | | |
| Maximum 8-hour concentration (ppm) | 0.089 | 0.099 | 0.088 |
| Number of days standard exceeded[a] | | | |
| NAAQS 1-hour (>0.08 ppm) | 1 | 14 | 7 |
| **Carbon Monoxide (CO) – Sonora Baretta Street Station** | | | |
| Maximum 8-hour concentration (ppm) | 1.56 | 1.49 | 1.36 |
| Maximum 1-hour concentration (ppm) | 2.8 | 3.7 | 2.5 |
| Number of days standard exceeded[a] | | | |
| NAAQS 8-hour (>9.0 ppm) | 0 | 0 | 0 |
| CAAQS 8-hour (>9.0 ppm) | 0 | 0 | 0 |
| NAAQS 1-hour (>35 ppm) | 0 | 0 | 0 |
| CAAQS 1-hour (>20 ppm) | 0 | 0 | 0 |

Notes:

CAAQS = California ambient air quality standards.
NAAQS = national ambient air quality standards.
NA = insufficient data available to determine the value.

a. An exceedance is not necessarily a violation.

b. Measurements usually are collected every 6 days.

Sources: California Air Resources Board 2004; U.S. Environmental Protection Agency 2004.

**Table 4-6.** State and Federal Attainment Designations for Tuolumne County

| Pollutant | Federal Standards |
|---|---|
| 1-hour ozone | Unclassified/Attainment |
| 8-hour ozone | Subpart 1 nonattainment |
| CO | Unclassified/Attainment |
| Inhalable particulate matter (PM10) | Unclassified/Attainment |

For the purposes of air quality analysis, sensitive land uses are defined as locations where people reside or where the presence of pollutant emissions could adversely affect the use of the land. Sensitive land uses in the vicinity of the proposed action area include scattered residential land uses and recreational visitors to the area.

# XI. Noise

Within the vicinity of the proposed project area, the major sources of noise include aircraft overflights, agricultural operations, recreational activities (e.g., motor boats and off-highway vehicles) in the surrounding areas (i.e., New Melones Lake, Table Mountain Trailhead), vehicular traffic, woodcutting activities, and gunfire from hunting and illicit target practice.

The proposed project area is primarily rural with agricultural and recreational activities occurring in the vicinity of the action area. In general, ambient noise levels are positively correlated with population density, with less-urbanized areas being relatively quiet, while more urbanized areas are subjected to higher noise levels due to roadway traffic, industrial activities, and other human activities. Table 4-7 summarizes typical ambient noise levels based on population density. It is assumed that the ambient noise environment in the action area follows this pattern and that the ambient noise levels in the action area are in the range of 40 to 50 A-weighted decibels (dBA), community noise equivalent level (CNEL).

**Table 4-7.** Population Density and Associated Ambient Noise Levels

| | CNEL (dBA) |
|---|---|
| **Rural** | 40–50 |
| Suburban | |
| Quiet suburban residential or small town | 45–50 |
| Normal suburban residential | 50–55 |
| **Urban** | |
| Normal urban residential | 60 |
| Noisy urban residential | 65 |
| Very noise urban residential | 70 |
| Downtown, major metropolis | 75–80 |
| Under flight path at major airport, 0.5 to 1 mile from runway | 78–85 |
| Adjoining freeway or near a major airport | 80–90 |

Sources: Cowan (1984) and Hoover and Keith (1996)

Chapter 5
# Environmental Consequences

## Introduction

In this section the environmental consequences that would result from implementation of the proposed project are described. A summary analysis of the effects of this action on natural, cultural, visual and social resources is presented first, followed by more detailed analyses of the direct and indirect consequences of project alternatives on these resources.

## Summary of Environmental Effects

Table 5-1 summarizes the environmental effects each project alternative would have on the resources being analyzed in this EA. The causal factors for these impacts are primarily illegal and inappropriate recreational uses of the project study area (e.g., ORV use, shooting, dumping, unauthorized camping, etc.).

**Table 5-1.** Summary of Effects of Alternatives on Project Area Resources

| Resource | Alternative 1 – **No Action** | Alternative 2 – Resource Protection | Alternative 3 - Recreation | Alternative 4 – **Proposed Action** | Alternative 5 – Closure to Recreation |
|---|---|---|---|---|---|
| Vegetation | Continued less than significant effects on natural resources, | Improved natural resource protection | Continued less than significant effects on natural resources | Improved natural resource protection | Improved natural resource protection |
| Wildlife | Continued less than significant effects on natural resources, | Improved natural resource protection | Continued less than significant effects on natural resources | Improved natural resource protection | Improved natural resource protection |
| Recreation | Continued less than significant effects on recreation quality | Improved recreational quality | Continued less than significant effects on recreation quality | Improved recreational quality | No significant effect with mitigation. |
| Land use and demographics | Continued less than significant effects on recreation quality | No significant effects | No significant effects | No significant effects | No significant effect with mitigation |
| Soils | Continued less than significant effects on soils | No significant effects | Continued less than significant effects on soils | No significant effects | No significant effects |
| Cultural resources | Continued less than significant effects on areas of potentially cultural significance | No significant effect with mitigation | Continued less than significant effects on areas of potentially cultural significance | No significant effect with mitigation | No significant effect with mitigation |
| Agricultural and regional economics | No significant effects | No significant effects | No significant effects | No significant effects | No significant effects |
| Visual resources | Continued less than significant effects on natural resources | Improved visual quality | Continued less than significant effects on natural resources | Improved visual quality | Improved visual quality |
| Surface and ground water (incl. water quality) | Continued less than significant effects on natural resources | No significant effect | No significant effect | No significant effect | No significant effect |
| Environmental justice | No significant effects | No significant effects | No significant effects | No significant effects | No significant effects |
| Air quality | No significant effects | No significant effects | No significant effects | No significant effects | No significant effects |
| Noise | No significant effects | No significant effects | No significant effects | No significant effects | No significant effects |

# Vegetation and Wildlife

## Vegetation

### Alternative 1: No Change in Management

Alternative 1 would result in the continued loss of vegetation along the PWMA access road corridor from illegal ORV traffic and unregulated camping, fire building, trash dumping, and woodcutting (see Figures 4-2a and 4-3a). These disturbed unvegetated areas would continue to provide opportunities for the introduction and spread of noxious weeds. Unrestricted trash dumping and littering would result in direct and indirect loss of vegetation and potentially sensitive plant species. Unregulated fire building could result in wildfires that would remove existing vegetation, encouraging the spread of noxious weeds and potentially changing the composition and extent of the plant communities. Continued woodcutting would result in the loss of oak trees and oak woodland habitat.

#### Mitigation

No mitigation would be implemented for this alternative because no action would be taken.

### Alternative 2: Resource Protection

Alternative 2 would benefit vegetation resources of the PWMA by eliminating the primary sources of soil disturbance and vegetation loss. Closing unauthorized roads and trails and restoring plant cover by replanting and reseeding (Figures 4-2b and 4-3b) would restore impacted vegetation in the area. Enforcement of the bans on trash dumping, littering, and fire building would also reduce the future risk of adverse effects on the vegetation, particularly wildfires. Replanting bare areas and reducing the threat of wildfires would also slow the introduction and spread of noxious weeds. Constructing the parking areas, building new trails, and developing climbing routes would result in only a minor loss of vegetation. These effects from construction activities would be maintained at less than significant by implementation of Mitigation Measures V-1 and V-2.

#### Mitigation

**Mitigation Measure V-1. Avoid Disturbance of Special-Status Plants.** Prior to construction, the sites for the proposed parking and trailheads will be surveyed by a qualified botanist for the presence of threatened, endangered, candidate, or other special-status plants. If none are found, no further mitigation would be required. If any of these species are found within the proposed construction area, the footprint of the development area will be moved to avoid any impact to the

plants. Exclusion zones will be established around each population of these species with a minimum 20-foot radius that will be clearly marked with stakes and flagging. All construction-related activities including vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the zones. Following construction, all stakes and flagging demarcating the exclusion zones will be removed within 60 days.

**Mitigation Measure V-2. Control Dispersal of Noxious Weeds.** To prevent the introduction or spread of noxious weeds into previously uninfested areas, the following preventative measures will be implemented as part of the proposed project:

- Confirm noxious weed infestation areas prior to any vegetation removal activities in the proposed construction areas.
- Educate construction supervisors and managers about the importance of controlling and preventing the spread of noxious weed infestations.
- Clean all equipment that passes through noxious weed infestation areas at designated wash stations. The wash stations will be established by biological monitors at least 1 week prior to removal activities in a particular construction area. The wash stations will be located on sites within the project study area, at least 100 feet away from perennial drainages and other sensitive resource areas.
- Seed all disturbed areas that are to be restored with certified weed-free seed mixes.

The construction contractor will routinely inspect vegetation removal activities to verify that construction equipment is being cleaned of soil and plant material at designated wash stations.

## Alternative 3: Recreational Opportunities

Alternative 3 would have effects on vegetation resources similar to those of Alternatives 1 and 2. However, the benefits to vegetation resources would be less because seasonal use of the PWMA access road would allow the adverse effects described under Alternative 1 to continue, albeit at a lower level of disturbance.

### Mitigation

The effects of project construction activities would be mitigated by implementation of mitigation measures V-1 and V-2. Resource protection measures would protect vegetation during the road closure periods, but not during the open-road periods. The impacts occurring during open road periods could potentially be significant.

## Alternative 4: Resource Protection and Recreation

Alternative 4 would have the same effects on vegetation resources as Alternative 2.

### Mitigation

The effects of this alternative would be maintained at less than significant by continuance of existing PWMA resource management practices and implementation mitigation measures V-1 and V-2.

## Alternative 5: Area Closed to Recreation

Alternative 5 would have beneficial effects on vegetation resources as described for Alternative 2. There would only be minor loss of vegetation or impacts on sensitive plant species from constructing parking areas, building new trails, and developing climbing routes.

### Mitigation

No mitigation would be required for this alternative.

# Wildlife

## Alternative 1: No Change in Management

Alternative 1 would result in continued disturbance of wildlife through ORV use, noise disturbance, and other banned activities. Illegal shooting would result in direct loss of some wildlife, potentially including raptors. There would also be a continued loss and degradation of wildlife habitat along the PWMA access road corridor from illegal ORV traffic and its resultant soil compaction and erosion. Unrestricted trash dumping and littering could potentially result in incidental poisoning or impairment (e.g., plastic rings from cans in six-packs) of wildlife in the area. Illegal fire building could result in wildfires, which would directly harm wildlife and destroy their habitat. Continued woodcutting would result in the loss of oak trees and oak woodland habitat, which is an important habitat for many species of birds and small mammals. Unmanaged use of the climbing areas at the Grotto could potentially result in significant disturbance of the mastiff bat colony there and also any nesting raptors.

### Mitigation

No mitigation would be implemented for this alternative because no action would be taken.

# Alternative 2: Resource Protection

Alternative 2 would benefit wildlife by eliminating the primary sources of habitat loss and destruction. Wildlife would benefit by the closing of unauthorized roads and trails and the restoration of habitat conditions. Enforcement of the ban on illegal shooting, trash dumping, littering, and fire building would protect wildlife from human-related direct and indirect mortality and habitat loss. Constructing the parking areas, building new trails, and developing climbing routes would result in only a minor loss of habitat and temporary disturbance of wildlife. Improved trail planning and restriction of permitted camping to designated areas would help to localize and minimize disturbance to wildlife. Monitoring and management of rock climbing around Table Mountain would also minimize disturbance to sensitive wildlife in those areas. These effects from construction activities would be maintained at less than significant by implementation of Mitigation Measures W-1, W-2 and W-3.

## Mitigation

**Mitigation Measure W-1. Avoid Disturbing Active Special-Status Raptor Nests.** Prior to constructing the parking and trailhead sites, surveys will be conducted by a qualified biologist for all potentially active raptor nest sites within 0.5 mile of the proposed construction areas. If the surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation would be required. If active nests are found, a no-disturbance buffer will be established around each active nest. For golden eagles (*Aquila chrysaetos*), the buffer would include a 0.5-mile radius around the nest. For white-tailed kites, red-tailed hawks (*Buteo jamaicensis*), Cooper's hawks (*Accipiter cooperii*), and sharp-shinned hawk (*Accipiter striatus*), the buffer would include a 0.25-mile radius around the nest. The size of individual buffers can be adjusted based on an evaluation of the site by a qualified raptor biologist. The evaluation would be based on the presence of topographical features that obstruct the line of site from the construction activities to the nest or observations of the nesting pair during construction based on the level of ongoing disturbance and the sensitivity of the birds. Evaluations and buffer adjustments will be made in consultation with the local Reclamation and DFG representatives. The portion of the project that is within the designated buffer would be identified on the construction drawings and in the field by staking and flagging. If construction activities occur only during the non-breeding season of August 1 through February 28, no surveys would be conducted and no buffers would be required.

**Mitigation Measure W-2. Avoid Disturbance of Burrowing Owls.** Prior to constructing the parking and trailhead sites, surveys will be conducted by a qualified biologist for all potentially active burrowing owl burrow sites within 200 feet of the proposed construction areas. If no burrowing owls are found, no further mitigation would be required. If active nests are found, a 200-foot no-disturbance buffer will be established around each active burrow. The portion of the project that is within the designated buffer would be identified on the construction drawings and in the field by staking and flagging.

**Mitigation Measure W-3. Avoid Disturbance of Other Special-Status Wildlife.** Within 30 days prior to the beginning of construction activities, the parking and trailhead sites proposed for development will be surveyed by a qualified wildlife biologist for the presence of special-status wildlife listed in Table 4-3. If none are found, no further mitigation would be required. If any of these species are found using the proposed construction area in ways that would be impacted by project actions (e.g., nesting, established burrows, etc.), the footprint of the development area will be moved to avoid any impact to these species. If active nests or burrows are found that are being used by these species, a 200-foot no-disturbance buffer will be established around each nest site. The portion of the project that is within the designated buffer would be identified on the construction drawings and in the field by staking and flagging.

## Alternative 3: Recreation Opportunities

Alternative 3 would have effects on wildlife resources similar to those of Alternative 2. However, the benefits to wildlife would be less because seasonal use of the PWMA access road would allow the adverse effects described under Alternative 1 to continue, albeit at a lower level of disturbance.

### Mitigation

The effects of project construction activities associated with this alternative would be mitigated by implementation of mitigation measures W-1, W-2, and W-3. Existing Reclamation resource protection measures within PWMA would protect wildlife during the road closure periods but not during the open-road periods. The impacts on wildlife occurring during these open road periods could potentially be significant.

## Alternative 4: Resource Protection and Recreation

Alternative 4 would have the same effects on wildlife resources as Alternative 2.

### Mitigation

The environmental effects of this alternative would be reduced to less than significant by continuance of existing PWMA wildlife management practices and implementation of mitigation measures W-1, W-2, and W-3.

## Alternative 5: Area Closed to Recreation

Alternative 5 would have beneficial effects on wildlife resources as described for Alternative 2. There would also be no loss of habitat or disturbance of wildlife from construction activities.

### Mitigation

No mitigation would be required for this alternative.

# Recreation

## Alternative 1: No Change in Management

Alternative 1 would result in the continued degradation of resources in the PWMA access road corridor and subsequent loss of recreational opportunities. There would be little enforcement of trespass laws and bans on fires, ORV use, wood cutting, and illegal camping and dumping. Climbing and hunting would be unrestricted. No signage, boundary markers, or maps would be installed, and access would not be restricted.

Alternative 1 would result in several conflicts with both the DRMP and the Interim Plan. This alternative partially meets goal six, but meets no other goals of the Interim Plan (Appendix A: Table A-1). This alternative also does not comply with the DRMP because it would not result in the protection of natural resources in the corridor or provide adequate parking and other facilities designed to enhance recreation opportunities within the PWMA access road corridor.

### Recreational Opportunities

Under Alternative 1, there would be no restrictions on access to the PWMA access road corridor, and thus there would be only limited control of activities occurring in the area. Illegal activities would be expected to continue. This outcome would result in continued risks to public safety and natural resources because there would be limited regulation on hunting, access, camping, dumping, rock climbing, fires, and ORV use. Unregulated uses such as camping, climbing, and hunting can conflict with each other, resulting in a low-quality recreational experience, risks to public safety, and degradation of natural resources. It is expected that the quality of recreational experiences would continue to decline over time as a result of these continued unregulated uses.

### Mitigation

No mitigation would be implemented for this alternative because no action would be taken.

# Alternative 2: Resource Protection

Alternative 2 includes several measures designed to protect resources in the PWMA access road corridor and enhance recreational experience in this area of New Melones Reservoir. This alternative would result in the permanent closure of the PWMA access road to vehicles and the designation of areas for specific recreational uses. In addition, current bans on camping, fires, shooting, and ORV use would be enforced.

Alternative 2 would generally meet the goals of the Interim Plan (Appendix A: Table A-2). However, goals four and five would be only partially met. This alternative would provide users with increased recreational experiences and would therefore be in compliance with the DRMP.

## Recreational Opportunities

Under Alternative 2, the existing trail system in PWMA would be upgraded. A trails plan would be developed and implemented. Specific actions included in this alternative include:

- development of trailheads and parking lots at each of the closure points,
- installation of toilets at parking areas, and
- construction of trails (per trails plan) and closure and restoration of unauthorized trails.

These actions would result in the overall improvement of the existing trail system. As a result, trail users (including campers, hikers, wildlife and wild flower viewers, hunters, and climbers) would have an improved experience within the corridor. This outcome would result in beneficial effects on recreation.

In addition, recreational uses would be designated for specific locations in PWMA under this alternative. Group camping would be permitted by reservation in specific locations. All unauthorized trails in the PWMA would be closed. The access road would also be graded and maintained for management and fire control purposes, thus allowing vehicular access for enforcement of bans on specific activities and ensuring fire control. The designation and enforcement of areas for specific uses would ensure that conflicting uses would not result in destruction of resources or risks to public safety, thereby improving the overall recreational experience in this area. Overall these management effects for would be beneficial recreation activities within PWMA.

Should further studies indicate that climbers are adversely affecting sensitive species, a climbing management plan would be developed to identify specific non-conflict areas that are suitable for rock climbing.

### Mitigation

The overall effects of this alternative would be beneficial for recreation in the PWMA. No mitigation measures would be required.

# Alternative 3: Recreational Opportunities

Alternative 3 differs from Alternative 2 in that vehicular access would be allowed from May 1 through December 1.

Because Alternative 3 would result in the closure of the road for only 6 months of the year, it would only partially meet the goals of the Interim Plan (Appendix A: Table A-3). However, it would fully meet goal six as it would increase cooperation among landowners, recreationists, and Reclamation. Because it only partially meets resource protection goals of the Interim Plan, it also only partially complies with the DRMP.

## Recreational Opportunities

Similar to Alternative 2, Alternative 3 would result in an upgraded trail system. A trails plan (described above) would be developed and implemented. These actions would result in the overall improvement of the existing trail system. As a result, trail users (including campers, hikers, wildlife and wild flower viewers, hunters, and climbers) would have an improved experience within the corridor. These effects would be beneficial for recreation in the PWMA.

Alternative 3 would also result in the same designation of specific recreational use areas as Alternative 2. Group camping would be permitted by reservation only in specific low-impact locations. Hunting would be permitted only in the Peoria Mountain area from the New Melones Reservoir shoreline to the PWMA access road. All unauthorized trails in the PWMA would be closed. The access road would be graded and maintained for management and fire control purposes, as well as for seasonal (May 1 through November 30) public use. Vehicle barriers would be installed to restrict access to unauthorized roads. The designation and enforcement of specific use areas would ensure that the conflicting uses would not result in destruction of resources during periods when the access road is open. During this period, risks to public safety would be reduced, therein improving the overall recreation experience quality in the area.

If further studies indicate that climbers are adversely affecting sensitive species, a climbing management plan would be developed to specify the non-impact areas suitable for rock climbing. Alternative 3 would also result in the same limited control of recreational activities as Alternative 2 in the PWMA access road corridor between May and December. Unregulated uses such as camping, rock climbing, and hunting can conflict with each other, resulting in a low-quality recreational experience and risks to public safety and degradation of natural resources. It is expected that the quality of recreational experiences would

continue to decline over time as a result of continued unregulated uses for 7 months of the year. Although vehicular traffic would be unregulated in the corridor for a portion of the year, this alternative would improve recreational opportunities through the improvement of trails, the enhancement of wildlife viewing programs, and the construction of parking areas and toilets. Hence, this alternative would not result in substantial adverse effects on recreation in the PWMA.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 4: Resource Protection and Recreation

Under Alternative 4, the PWMA access road would be closed to vehicles year-round. This alternative is similar to Alternative 2 in that it improves trails and recreational experience through the implementation of designated areas for specific recreational uses, increased enforcement of existing bans on detrimental activities, and the development of plans to proactively manage recreational opportunities. However, Alternative 4 also provides informational brochures and maps to inform the public of recreation opportunities and areas.

Alternative 4 would meet all goals of the Interim Plan (Appendix A: Table A-4). This alternative would provide users with increased recreational experiences and would therefore be in compliance with the DRMP.

### Recreational Opportunities

As with Alternative 2, Alternative 4 would result in an upgrade of the existing trail system that would enhance the recreational experience of PWMA trail users. Also under Alternative 4, group camping and rock climbing would be restricted to specific locations within the PWMA to minimize impacts on resources and conflicts between different user groups and to increase public safety.

Additionally, under Alternative 4 the public would be provided with informational brochures and maps that would identify recreational opportunities available to the public. This service would promote appropriate recreational uses in designated areas. Distribution of these informational materials would also potentially result in increased use of PWMA as the public becomes more aware of the permitted activities. The DRMP would direct Reclamation to open new areas for recreational purposes should demand increase. However, while the recreational opportunity information provided to the public under this alternative may result in some increased use in the area, it would not likely result in a substantial effect on recreational opportunities or experiences.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 5: Area Closed to Recreation

Under Alternative 5, the PWMA access road and surrounding area would be closed year-round to the public, and there would be no designated recreational areas or enhancement of trails or user facilities.

Alternative 5 would not meet goal one of the Interim Plan (Appendix A: Table A-5) and would only partially meet goal six. All other goals would be met. This alternative would not provide users with improved recreational experiences and would therefore not be in compliance with the DRMP. This conflict with the plans would have a substantial effect on recreation in the PWMA access road corridor because it halts recreational uses of the road corridor.

### Recreational Opportunities

Alternative 5 would result in the year-round road and area closure of the PWMA access road corridor area to the public. This closure would prohibit all recreational opportunities such as hiking, wildlife and wild flower viewing, and climbing in the area.

### Mitigation

Because the objective of this alternative is to provide the maximum feasible protection of natural, cultural, and wildlife resources in the area, no mitigation measures for recreation would be implemented.

# Land Use and Demographics

## Alternative 1: No Change in Management

Alternative 1 would result in continued conflict between Reclamation planned resource and recreational use management of the PWMA and unrestricted illegal and inappropriate uses of the area. Existing natural resources, public safety, recreational enjoyment, and landowner rights on adjacent lands would be increasingly degraded.

### Mitigation

No mitigation would be implemented for this alternative because no action would be taken.

# Alternative 2: Resource Protection

Alternative 2 would not result in conversion or alteration of planned resource protection of the PWMA.

## Mitigation

No mitigation would be required for this alternative.

# Alternative 3: Recreational Opportunities

Alternative 3 would not result in conversion or alteration of planned recreational uses of the PWMA.

## Mitigation

No mitigation would be required for this alternative.

# Alternative 4: Resource Protection and Recreation

Alternative 4 would not result in conversion or alteration of planned resource protection and recreational uses of the PWMA.

## Mitigation

No mitigation would be required for this alternative.

# Alternative 5: Area Closed to Recreation

Alternative 5 would halt recreational uses of the PWMA access road corridor area. It would result in a change in current Reclamation land use policy for the PWMA, but this change would not be significant in that the effect of the area closure on recreational opportunities for the public would be local, not regional. Other Reclamation lands within the New Melones Reservoir complex would remain available for these activities.

## Mitigation

No mitigation would be required for this alternative.

# Soils

## Alternative 1: No Change in Management

This alternative would involve no change in existing conditions; consequently, soil compaction, erosion, and sedimentation would continue to occur as a result of increasing vehicle, bicycle, and equestrian use.

### Mitigation

No mitigation would be implemented for this alternative because no action would be taken.

## Alternative 2: Resource Protection and Alternative 4: Resource Protection and Recreation

These alternatives would involve year-round closure of the access road to the public. Grading would be required to construct the parking areas. Implementation of the Storm Water Pollution Prevention Plan (SWPPP) prepared by Reclamation for the project would prevent potential excessive erosion of the disturbed areas and subsequent sedimentation.

### Mitigation

No mitigation measures would be required.

## Alternative 3: Recreational Opportunities

This alternative would involve closure of the PWMA access road between December 1 and May 1. Vehicle barriers would also be constructed as part of this alternative to minimize illegal use of unauthorized roads. Recreational uses with high soil disturbance potential such as trailhead staging, group camping and intensive trail use would be restricted to designated areas where proper implementation of the SWPPP prepared for the project would prevent potential excessive soil impacts and subsequent sedimentation.

### Mitigation

No mitigation measures would be required.

## Alternative 5: Area Closed to Recreation

This alternative would involve closure of the road and surrounding area to public use. While the road would be maintained for management and fire control access, proper implementation of existing road management practices would prevent potential excessive erosion of the disturbed areas and subsequent sedimentation.

### Mitigation

No mitigation measures would be required.

# Cultural Resources

Reclamation is required to comply with Section 106 of the NHPA and its implementing regulations (*36 CFR Part 800*). Section 106 of the NHPA requires federal agencies to consider the effects of their actions, including activities they fund or permit, on the properties that may be eligible for listing or are listed in the NRHP. To determine whether an undertaking could affect historic properties, cultural resources (including archaeological, historical, and architectural properties) must be inventoried and evaluated for eligibility to the NRHP. To be eligible for listing in the NRHP and therefore determined to be a historic property, a cultural resource must be at least 50 years old (or of exceptional historic significance) and be evaluated as significant. Pursuant to *36 CFR 800.5(a)(1)*, an adverse effect on a historic property is found when an undertaking may alter the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to the following:

- physical destruction or damage of all or part of the property;
- alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (*36 CFR Part 68*) and applicable guidelines;
- removal of the property from its historic location;
- change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

- neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

- transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance (*36 CFR 800.5(a)*).

Impacts on cultural resources were assessed based on whether the project would cause adverse effects on any significant resources using the criteria discussed above.

As a result of this study, the PWMA access road corridor and Peoria Basin trailhead area were found to have cultural resources present within the project area boundaries. Both of the resources present have been recommended as eligible for inclusion on the NRHP.

# Alternative 1: No Change in Management

Alternative 1 would result in continued high-impact use of the PWMA access road corridor and Peoria Basin trailhead. Continued illegal use and other destructive activities such as ORV use could damage P-55-0073, P-55-1473, and potentially other unidentified cultural resources.

## Mitigation

No mitigation would be implemented for this alternative because no action would be taken.

# Alternative 2: Resource Protection

Alternative 2 would close the PWMA access road to public vehicle use year-round and ban fires, dumping, littering, woodcutting, and incompatible hunting. It would provide for natural resource restoration and enhancement; implementation of wildlife and vegetation management plans; development of trails, camping areas, and climbing areas; and implementation of environmental interpretation and education programs.

Historic properties within the project area (P-55-0073 and P-55-1473) could be adversely affected by construction activities related to natural resource restoration and implementation of wildlife and vegetation management plans as well as installation of trails, camping areas, and climbing areas. Adverse effects on P-55-0073 and P-55-1473 will be avoided by implementation of Mitigation Measure C-1.

Because the project area is highly sensitive for cultural resources, it is possible that ground-disturbing construction activities could also inadvertently unearth previously unidentified historic properties. Adverse effects on any potential historic properties will be reduced by implementation of Mitigation Measure-C2.

### Mitigation

**Mitigation Measure C-1. Avoid Historic Properties.** All proposed activities and disturbances will avoid known historic properties. Avoidance means that no activities associated with the Proposed Action that may adversely affect historic properties will occur within site boundaries. Portions of the Proposed Action may need to be modified, redesigned, or eliminated to properly avoid historic properties. When changes in proposed activities (e.g., project modifications) are necessary to avoid historic properties, these changes would be completed before initiating any activities.

**Mitigation Measure C-2. Stop Work if Buried Cultural Resources Are Discovered.** If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbing activities, all work in that area and within 100 feet of the find would be stopped immediately until a Reclamation archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment and avoidance measures in consultation with SHPO.

## Alternative 3: Recreational Opportunities

Under this alternative, the PWMA access road would be closed for 5 months (December 1 to May 1) each year. Outside this period (7 months), there would be no access restrictions to public vehicle use of the PWMA access road. Parking and trailhead facilities would be developed at seasonal closure points to facilitate low-impact recreation when the road is closed. Hunting would be allowed by permit below the PWMA access road to the shoreline, but not permitted above the access road. This alternative would result in seasonal high-impact/low-impact recreation use of the area.

Historic properties within the project area (P-55-0073 and P-55-1473) could be adversely affected by construction activities related to development of parking and trailhead facilities. Adverse effects on P-55-0073 and P-55-1473 will be avoided by implementation of Mitigation Measure C-1.

Because the project area is highly sensitive for cultural resources, it is possible that ground-disturbing construction activities could also inadvertently unearth previously unidentified historic properties. Adverse effects on any potential historic properties will be reduced by implementation of Mitigation Measure-C2.

### Mitigation

**Mitigation Measure C-1. Avoid Historic Properties.** All proposed activities and disturbances will avoid known historic properties. Avoidance means that no activities associated with the Proposed Action that may adversely affect historic properties will occur within site boundaries. Portions of the Proposed Action may need to be modified, redesigned, or eliminated to properly avoid historic properties. When changes in proposed activities (e.g., project modifications) are necessary to avoid historic properties, these changes would be completed before initiating any activities.

**Mitigation Measure C-2. Stop Work if Buried Cultural Resources Are Discovered.** If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbing activities, all work in that area and within 100 feet of the find would be stopped immediately until a Reclamation archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment and avoidance measures in consultation with SHPO.

## Alternative 4: Resource Protection and Recreation

Implementation of Alternative 4 would result in the PWMA access road being closed to public vehicle use year-round. Parking and trailhead facilities would be developed at road closure points; regulated climbing, group camping, and hunting would be permitted in appropriate areas, and environmental education programs would be implemented. Cooperative management programs for restoration and enhancement of natural resources would be developed and implemented. Historic properties within the project area (P-55-0073 and P-55-1473) could be adversely affected by construction activities related to natural resource restoration and enhancement as well as installation of parking and trailhead facilities, camping areas, and climbing areas. Adverse effects on P-55-0073 and P-55-1473 will be avoided by implementation of Mitigation Measure C-1.

Because the project area is highly sensitive for cultural resources, it is possible that ground-disturbing construction activities could also inadvertently unearth previously unidentified historic properties. Adverse effects on any potential historic properties will be reduced by implementation of Mitigation Measure-C2.

### Mitigation

**Mitigation Measure C-1. Avoid Historic Properties.** All proposed activities and disturbances will avoid known historic properties. Avoidance means that no activities associated with the Proposed Action that may adversely affect historic properties will occur within site boundaries. Portions of the Proposed Action may need to be modified, redesigned, or eliminated to properly avoid historic properties. When changes in proposed activities (e.g., project modifications) are

necessary to avoid historic properties, these changes would be completed before initiating any activities.

**Mitigation Measure C-2. Stop Work if Buried Cultural Resources Are Discovered.** If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbing activities, all work in that area and within 100 feet of the find would be stopped immediately until a Reclamation archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment and avoidance measures in consultation with SHPO.

# Alternative 5: Area Closed to Recreation

This alternative would involve closure of the road and surrounding area to public use. The road would be maintained for management and fire control access. Alternative 5 would provide no public access for recreation and no opportunities for low-impact, rural-natural recreation. Management actions would focus on implementation of natural resource restoration, management, and protection plans.

Historic properties within the project area (P-55-0073 and P-55-1473) could be adversely affected by construction activities related to natural resource restoration and protection. Adverse effects to P-55-0073 and P-55-1473 will be avoided by implementation of Mitigation Measure C-1.

Because the project area is highly sensitive for cultural resources, it is possible that ground-disturbing construction activities could also inadvertently unearth previously unidentified historic properties. Adverse effects on any potential historic properties will be reduced by implementation of Mitigation Measure-C2.

## Mitigation

**Mitigation Measure C-1. Avoid Historic Properties.** All proposed activities and disturbances will avoid known historic properties. Avoidance means that no activities associated with the Proposed Action that may adversely affect historic properties will occur within site boundaries. Portions of the Proposed Action may need to be modified, redesigned, or eliminated to properly avoid historic properties. When changes in proposed activities (e.g., project modifications) are necessary to avoid historic properties, these changes would be completed before initiating any activities.

**Mitigation Measure C-2. Stop Work if Buried Cultural Resources Are Discovered.** If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbing activities, all work in that area and within 100 feet of the find would be stopped immediately until a Reclamation archaeologist can assess the

significance of the find and, if necessary, develop appropriate treatment and avoidance measures in consultation with SHPO.

# Agricultural and Regional Economics

## Alternative 1: No Change in Management

Under Alternative 1, there would be no change in the management of the PWMA area; accordingly, there would be no change to agricultural uses and regional economics.

### Mitigation

No mitigation would be implemented for this alternative because no action would be taken.

## Alternative 2: Resource Protection

Under Alternative 2, the PWMA access road would be closed to public vehicular use year-round and several recreational enhancements would be implemented. It is not expected that this improvement in recreation would result in substantial changes in regional economics because a considerable change in recreation would not occur. It is expected that grazing in the PWMA access road area would continue as is within private lands. There would be no change in agriculture resulting from this alternative.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 3: Recreational Opportunities

Under Alternative 3, the PWMA access road would be closed to public vehicular use between December 1 and May 1, and several recreational enhancements would be implemented. It is not expected that this improvement in recreation would result in substantial changes in regional economics because a considerable change in recreation would not occur. It is expected that grazing in the PWMA access road area would continue as is within private lands. There would be no change in agriculture resulting from this alternative.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 4: Resource Protection and Recreation

Under Alternative 4, the PWMA access road would be closed to public vehicular use year-round and several recreational enhancements would be implemented. In addition, public knowledge of the area and its recreational opportunities would be increased through informational brochures and maps. It is not expected that this improvement in recreation would result in substantial changes in regional economics because a considerable change in recreation would not occur. There would be no substantial change in agriculture resulting from this alternative.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 5: Area Closed to Recreation

Under Alternative 5, the PWMA access road and surrounding area would be closed year-round to the public. This is not expected to have an effect on regional economics because there are very few businesses within the project area and they do not rely on recreational use in the PWMA access road corridor.

### Mitigation

No mitigation would be required for this alternative.

# Visual Resources

The evaluation of changes in the visual environment is based on the visual features of the landscape, their quality and character, and their importance to people. These features of the project landscape were assessed and described above. With this preliminary establishment of the baseline (existing) conditions, the project can be systematically evaluated for its degree of visual impact. The degree of impact depends both on the magnitude of change in the visual resource (i.e., visual character and quality) and on viewers' responses to and concern for those changes. Numerous federal agencies and organizations have created or defined visual assessment methodologies to improve the quality and accuracy of visual analysis.

The approach for this visual assessment is adapted from the Federal Highway Administration's visual impact assessment system (Federal Highway Administration 1983), in combination with other established visual assessment systems. These guidelines are easily transferred to other types of projects that could alter existing landscapes. The visual impact assessment process involves identification of:

- relevant policies and concerns for protection of visual resources;
- visual resources (i.e., visual character and quality) of the region, the immediate project area, and the project site;
- important viewing locations and the general visibility of the project area and site using descriptions and photographs;
- viewer groups and their sensitivity; and
- potential impacts, mitigation for impacts, and other recommendations.

The following methods of data collection were used to evaluate the visual character of the project site, assess the quality and character of the site's visual resources, and describe views of and from the project site:

- ground-level reconnaissance, including field observation from adjacent roadways, recreational resources, and the proposed project sites;
- interpretation of regional visual context; and
- review of the Alternatives in regard to compliance with state and local ordinances and regulations and professional standards pertaining to visual quality.

# Alternative 1: No Change in Management

Alternative 1 would not include any access restrictions in the PWMA access road corridor. It is expected that increased erosion, loss of vegetation, and illegal activities such as dumping; camping, and woodcutting would result in adverse effects on the visual character of the area. Additionally, existing trails would not be maintained and unauthorized trails would continue to be degraded. This outcome would result in a decrease in intactness and unity. All viewer groups would be affected by this change in the visual quality; however, recreationists and area residents would likely be most sensitive to this change.

## Mitigation

No mitigation would be implemented for this alternative because no action would be taken.

# Alternative 2: Resource Protection

Alternative 2 includes several measures designed to protect resources in the PWMA access road corridor and enhance recreational experience in this area of New Melones Reservoir. This alternative would result in the permanent closure of the PWMA access road to vehicles and the designation of areas for specific recreational uses. In addition, current bans on camping, fires, shooting, and off-road vehicle use would be enforced.

Restrictions on uses and designation of certain areas for specific uses would ensure that resources in the PWMA access road corridor are protected from further degradation. This outcome would result in the improvement of the visual quality of this area. All viewer groups would be affected by this change in the visual quality; however, recreationists and area residents would likely be most sensitive to this change.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 3: Recreational Opportunities

Alternative 3 would have similar effects on visual resources resulting from illegal and inappropriate activities when the road is open to those described for Alternative 1. This effect would likely remain during the road closure season. However, enforcement of bans on these activities would reduce these effects over time.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 4: Resource Protection and Recreation

Alternative 4 would have the same effects on visual resources as Alternative 2.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 5: Area Closed to Recreation

Alternative 5 would have beneficial effects on visual resources as described for Alternative 2 and there would be no minor loss of visual quality from constructing the parking areas.

### Mitigation

No mitigation would be required for this alternative.

# Surface and Ground Water (Including Water Quality)

## Alternative 1: No Change in Management

This alternative would involve no change in existing conditions, so vegetation degradation, soil compaction, and contamination of soils by vehicle/human-waste pollutants would continue. Soil erosion and discharge of sediment and pollutants to the New Melones Reservoir would continue. However, soil disturbance and potential accelerated erosion and reservoir sedimentation associated with parking lot construction would not occur. Effects on reservoir water quality would continue to be local, and effects on overall water quality in the reservoir would probably not be detectable.

### Mitigation

No mitigation would be implemented for this alternative because no action would be taken.

## Alternative 2: Resource Protection and Alternative 4: Resource Protection and Recreation

These alternatives would involve year-round closure of the road to the public and installation of toilets at trailheads. They would therefore result in the greatest reduction in vegetation degradation, pollutant discharge, and soil disturbance and compaction, and therefore in soil erosion and reservoir sedimentation and pollution, among all of the alternatives, except Alternative 5. Moreover, Reclamation would implement a SWPPP program and other restoration measures, including ongoing seeding, to control erosion along the corridor. Such measures would reduce erosion rates and reservoir sedimentation compared to the existing condition and Alternative 1.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 3: Recreational Opportunities

This alternative would involve closure of the PWMA access road during the rainy season (between December 1 and May 1) and installation of toilets at trailheads. This closure season generally is when soil compaction and accelerated erosion is most likely to occur. Accordingly, this alternative would result in a reduction of erosion and reservoir sedimentation rates relative to Alternative 1, but not to the degree of the reduction under Alternatives 2 and 4.

Reclamation would implement a SWPPP program and other restoration measures including ongoing seeding to control erosion along the corridor. These measures would reduce erosion rates and reservoir sedimentation compared to the existing condition and Alternative 1. Effects on reservoir water quality would continue to be local, and beneficial effects on overall water quality in the reservoir would probably not be detectable.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 5: Area Closed to Recreation

This alternative would involve year-round closure of the road and surrounding area to public use. The road would not be decommissioned or obliterated but would be maintained for fire management and other management access. This alternative would result in the least soil compaction and accelerated erosion and reservoir sedimentation of all the alternatives. No soil disturbance and potential accelerated erosion associated with parking lot construction would occur. Moreover, even though no toilets would be provided, contamination of soils by household/auto/human-waste pollutants would be prevented, virtually eliminating reservoir contamination from these local sources.

### Mitigation

No mitigation would be required for this alternative.

# Environmental Justice

Environmental justice impacts are those where there would be disproportionately high and adverse human health or environmental effects on minority and low-income populations as a result of a project (CEQ 1997).

As discussed in Chapter 3, the census tracts (51 and 52.01) where the project corridor is located comprise large geographic areas. Because these tracts are largely federal lands and sparsely populated, the Census does not reflect block group information in order to characterize the few residents that live along the ranch road south of the PWMA project corridor. Chapter 3 also revealed that the general population in the vicinity of the project area appears to consist of a low percentage of minority populations.

As discussed in other sections of this chapter, any potential adverse effects on residents in the immediate area are anticipated to be minimal as the portion of the PWMA access road that is proposed for management action is not used for area residents for commuting purposes. Further, any potential effects on regional recreationists are also considered to be minimal since the portion of the PWMA

access road that is considered for action is a small part of the larger PWMA and New Melones Resource Area, where many areas for recreation are open to the public. Specific impacts on recreation are discussed under *Recreation* in this chapter.

For the reasons identified above, the actions proposed for the PWMA access road would not have environmental justice impacts.

### Mitigation

No mitigation would be required for this alternative.

## Air Quality

Reclamation does not have its own specific guidelines or thresholds related to air quality. In lieu of Reclamation standards, the federal general conformity de minimis guidelines are used to assess impacts in this analysis.

The NEPA review process must be integrated with other regulatory review processes and consider applicable regulations. A non-transportation project located in a nonattainment or maintenance area must undergo a general conformity analysis in accordance with 40 CFR 93 to ensure that the project does not:

- cause or contribute to new violations of any standard in any area;
- increase the frequency or severity of an existing violation of any standard; or
- delay timely attainment of any standard, required interim emission reduction, or other milestones.

As part of the general conformity process, a conformity analysis is required if a federal action satisfies one of the following two conditions:

1. The action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at or above emission rates shown in Table 5-2.
2. The action's direct and indirect emissions of any criteria pollutant represent 10% of a nonattainment or maintenance area’s total emissions inventory for that pollutant.

**Table 5-2.** Emission Rates for Criteria Pollutants in Nonattainment Areas

| Pollutant | Emission Rate (Tons per Year) |
|---|---|
| Ozone (Volatile organic compounds or oxides of nitrogen [$NO_{X]}$) | |
| Serious nonattainment areas | 50 |
| Severe nonattainment areas | 25 |
| Extreme nonattainment areas | 10 |
| Other ozone nonattainment areas outside an ozone transport region | 100 |
| Marginal and moderate nonattainment areas inside an ozone transport region | |
| Volatile organic compounds | 50 |
| $NO_X$ | 100 |
| CO: All nonattainment areas | 100 |
| Sulfur dioxide ($SO_{2)}$ or nitrogen dioxide ($NO_{2)}$: All nonattainment areas | 100 |
| PM10 | |
| Moderate nonattainment areas | 100 |
| Serious nonattainment areas | 70 |
| Lead (Pb): All nonattainment areas | 25 |

Note: De minimis threshold levels for conformity applicability analysis.
Source: 40 CFR 51.853.

If the total direct emissions associated with the project are below the de minimis levels indicated in Table 5-2, general conformity requirements do not apply, and the project is considered in conformity and would not result in an adverse impact. Because the project region is in attainment for the criteria pollutants indicated in Table 5-2 except ozone (transitional status), conformity for ozone must be completed for the alternatives.

# Alternative 1: No Change in Management

This alternative would involve no change in existing conditions; therefore, air quality impacts would continue to occur as a result of recreational use of the road (e.g., vehicle, bicycle, and equestrian use), and fires. This alternative would allow the greatest use of the action area and would result in the greatest emissions, as compared to the other alternatives. Emissions would primarily result from vehicular use of the road, vehicular traffic associated with recreational activities (e.g., hunting, camping, and climbing), fires, and fugitive dust generated from soil disturbing activities. Because the road will not be graded, no emissions would result from this activity. Emissions associated with construction and use of the parking lots would be avoided, as they would not be constructed as part of this alternative. With no change in existing conditions,

however, it is not anticipated that emissions would exceed de minimis thresholds indicated in Table 5-2.

### Mitigation

No mitigation would be implemented for this alternative because no action would be taken.

## Alternative 2: Resource Protection and Alternative 4: Resource and Recreation

These alternatives would involve year-round closure of the road to the public and would result in the least air quality impacts among all the alternatives, except for Alternative 5. The road nevertheless would be graded and maintained for management and fire control access, which would result in the generation of fugitive dust from grading activities and pollutant emissions from the operation of construction equipment and vehicles used for management and fire control activities. Vehicular traffic associated with recreational activities (e.g., hunting, camping, and climbing), use of the parking lots, and enforcement patrols would be the primary sources of emissions under this alternative. In addition, construction of the parking lots is anticipated to generate emissions of fugitive dust from earthmoving activities and pollutant emissions from equipment.

The year-round closure of the road to vehicular traffic would eliminate emissions associated with use of the road. Banning fires would reduce emissions associated with fires, while limiting/banning hunting, camping, and dumping would reduce the amount of vehicle trips (and associated emissions) needed to access the action area for these activities. It is not anticipated that emissions would exceed de minimis thresholds indicated in Table 5-2.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 3: Recreational Opportunities

This alternative would involve closure of the road between December 1 and May 1. This generally is the time of the year when CO concentrations are at their highest and ozone concentrations are their lowest. The road nevertheless would be graded and maintained for management and fire control access, which would result in the generation of fugitive dust from grading and pollutant emissions from the operation of construction equipment and vehicles used for management and fire control activities. Emission sources would be the same as those identified under Alternatives 2 and 4, but impacts would be greater for Alternative 3, compared to Alternatives 2 and 4, as Alternative 3 entails use of the road 5 months of the year, while Alternatives 2 and 4 do not entail any use of

the road. It is not anticipated that emissions would exceed de minimis thresholds indicated in Table 5-2.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 5: Area Closed to Recreation

This alternative would involve year-round closure of the road and surrounding area to public use. The road nevertheless would be graded and maintained for management and fire control access, which would result in the generation of fugitive dust from grading and pollutant emissions from the operation of construction equipment and vehicles used for management and fire control activities. Vehicular traffic associated with recreational activities (e.g., hunting), and enforcement patrols would be the primary sources of emissions under this alternative.

This alternative would result in the least amount of air quality impacts, as the road would be closed to vehicular traffic, thereby eliminating emissions associated with its use. In addition, dumping, fires, hunting, and off-road camping would be banned or limited. Banning fires would reduce emissions associated with fires, while limiting/banning hunting, camping, and dumping would reduce the amount of vehicle trips (and associated emissions) needed to access the action area for these activities. Emissions associated with construction and use of the parking lots would be avoided, as they would not be constructed as part of this alternative. It is not anticipated that emissions would exceed de minimis thresholds indicated in Table 5-2.

### Mitigation

No mitigation would be required for this alternative.

# Noise

Reclamation does not have any guidelines or thresholds related to noise. In lieu of Reclamation standards, The Tuolumne County Noise Element standard (see Chapter 4) was used to assess impacts in this analysis.

## Alternative 1: No Change in Management

This alternative would involve no change in existing conditions; therefore, noise impacts would continue to occur as a result of recreational use of the road (e.g., ORVs), hunting and firing of firearms, equipment used for woodcutting, and

vehicles used to access the area. This alternative would allow the greatest use of the action area and would result in the most noise impacts, as compared to the other alternatives. Because the road will not be graded, no noise would result from this activity. Noise associated with construction and use of the parking lots would be avoided, as they would not be constructed as part of this alternative. With no change in existing conditions, however, it is not anticipated that operation of vehicles or noise from recreational activities would result in a significant noise impact at the nearest noise-sensitive land use.

### Mitigation

No mitigation would be implemented for this alternative because no action would be taken.

## Alternative 2: Resource Protection and Alternative 4: Resource and Recreation

These alternatives would involve year-round closure of the road to the public and would result in the least noise impacts among all the alternatives, except for Alternative 5. The road nevertheless would be graded and maintained for management and fire control access, which would result in noise from the operation of construction equipment and vehicles used for management and fire control activities. Vehicular traffic associated with recreational activities (e.g., hunting, camping, and climbing), firing of firearms for hunting, use of the parking lots, and enforcement patrols would be the primary sources of noise under this alternative. In addition, construction of the parking lots is anticipated to result in noise from the operation of construction equipment. The year-round closure of the road to vehicular traffic would eliminate noise from off-highway vehicles associated with use of the road. Banning fires and limiting/banning hunting, camping, and dumping would reduce the amount of vehicle trips (and associated vehicular noise) needed to access the action area for these activities. It is not anticipated that operation of vehicles or noise from recreational activities would result in a significant noise impact at the nearest noise-sensitive land use.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 3: Recreational Opportunities

This alternative would involve closure of the road between December 1 and May 1. The road nevertheless would be graded and maintained for management and fire control access, which would result in noise from the operation of construction equipment and vehicles used for management and fire control activities. Sources of noise would be the same as those identified under Alternatives 2 and 4, but impacts would be greater for Alternative 3, compared to

Alternatives 2 and 4, as Alternative 3 entails use of the road 5 months of the year, while Alternatives 2 and 4 do not entail any use of the road. It is not anticipated that operation of vehicles or noise from recreational activities would result in a significant noise impact at the nearest noise sensitive land use.

### Mitigation

No mitigation would be required for this alternative.

## Alternative 5: Area Closed to Recreation

This alternative would involve year-round closure of the road and surrounding area to public use. The road nevertheless would be graded and maintained for management and fire control access, which would result in noise from the operation of construction equipment and vehicles used for management and fire control activities. The primary sources of noise under this alternative are vehicular traffic associated with recreational activities (e.g., hunting) and enforcement patrols and firing of firearms for hunting.

This alternative would result in the least amount of noise impacts, as the road would be closed to vehicular traffic, thereby eliminating noise associated with its use. In addition, dumping, fires, hunting, and off road camping would be banned or limited. Banning fires and limiting/banning hunting, camping, and dumping would reduce the amount of vehicle trips (and associated vehicular noise) needed to access the action area for these activities. Noise associated with construction and use of the parking lots would be avoided, as they would not be constructed as part of this alternative. It is not anticipated that operation of vehicles or noise from recreational activities would result in a significant noise impact at the nearest noise sensitive land use.

### Mitigation

No mitigation would be required for this alternative.

Chapter 6
# Consultation and Coordination

## Public Involvement

As part of the planning process for development of the Interim Plan, Reclamation initiated a comprehensive public involvement program to identify issues of concern to the public and to solicit input and participation in the planning process. This ongoing program has included a variety of involvement formats in which the public has been provided with information and has also had opportunities to provide comments and input on the design and content of the interim management plan. Public involvement activities have included the following:

- landowner meeting (3/11/02) with Reclamation staff, a congressional staff member and representatives from the Tuolumne County Supervisors, County Sheriff's Department and the California Department of Fish and Game to air issues and concerns and to obtain input and feedback from agency officials on possible solutions;
- visitor capacity study (2002) that included interviews of a broad spectrum of stakeholders;
- visitor capacity charette (7/16 – 7/17/02) with recreation managers and professionals from Reclamation, U.S. Forest Service, National Park Service, Blue Ribbon Coalition, Bureau of Land Management (BLM), California State Parks, U.S. Army Corps of Engineers, Colorado State University, and EDAW, an environmental design firm;
- stakeholders meeting (7/18/02) with groups representing hunting, bicycling, rock climbing, nature viewing, hiking, horseback riding, ORV use, target shooting, camping, and others;
- inter-agency meeting on PWMA access road management (7/19/02) including Reclamation, Tuolumne County Sheriff, California Dept of Fish and Game, BLM, and Tuolumne County Public works;
- PWMA access road work group meetings (five meetings between 9/4 and 12/4/02) including a variety of user groups, public agency personnel, and interested individuals;

- PWMA access road issues information handout describing issues and concerns of management of the PWMA access road corridor area distributed to the public in November 2002;
- open house (1/25/03) at the New Melones Visitor Center to present alternative for an interim PWMA access road corridor management plan; and
- associated area newspaper public information stories and news releases.

# Issues and Documentation

Based on the results of internal and public scoping, Reclamation identified the six specific issues as significant concerns regarding appropriate management of the PWMA access road corridor. These include maintenance of public access to the PWMA access road corridor and provision of low-impact rural-natural recreation opportunities; protection and restoration of natural, cultural, and wildlife resources; provision for visitor safety and compatible uses; protection of landowner rights; elimination of illegal and inappropriate uses of the PMWA through enforcement and education; and long-term efficient cooperative management of the PMWA.

These issues form the focused goals of the Interim Plan and are the basis for the development and comparison of the five alternatives discussed in this EA.

A comments disposition analysis that documented the categorization and responses to all public comments submitted was prepared as a key component of the scoping and alternatives formulation process. It is contained in the project record at the Reclamation Central California Area Office. The cultural records searches (State Historic Preservation Officer) are also on file at the CCIC. Additional documentation of consultation and coordination with regulatory agencies on this project are contained in Appendix B. These include a USFWS letter and NAHC correspondence.

Chapter 8

# List of Preparers, Distribution List, and References Cited

## List of Preparers

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Appendix A

# Goals and Management Actions of Interim Shell Road Corridor Management Plan

**Table A-1.** Alternative 1—No Change in Management

| Goals | | | | | |
|---|---|---|---|---|---|
| Provide low-impact rural-natural recreation opportunities and maintain public access | Protect and restore natural, cultural, and wildlife resources | Assure visitor safety and compatible uses | Protect landowner rights | Eliminate illegal and inappropriate uses | Manage the area in a cost- and time-efficient manner (cooperatively) |
| **Management Actions** | | | | | |
| No access restrictions except cross-fencing | Little enforcement of current ban on off-road vehicle usage, fires, wood cutting<br><br>Climbing allowed unrestricted<br><br>Hunting allowed unrestricted | Little enforcement of current ban on shooting except for hunting<br><br>Little enforcement of ban on fires | Little enforcement of trespass laws<br><br>Minimal posting of property boundaries<br><br>Boundary maps not available to public | Little enforcement of current ban on off-road camping, dumping, fires, and littering<br><br>Little enforcement of laws and regulations<br><br>No posting of rules and regulations<br><br>No actions such as road closure during times of illegal activities | No management<br><br>Some cooperation with user groups on trails |

**Table A-2.** Alternative 2—Resource Protection

| Goals | | | | | |
|---|---|---|---|---|---|
| Provide low-impact rural-natural recreation opportunities and maintain public access | Protect and restore natural, cultural, and wildlife resources | Assure visitor safety and compatible uses | Protect landowner rights | Eliminate illegal and inappropriate uses | Manage the area in a cost- and time-efficient manner (cooperatively) |
| **Management Actions** | | | | | |
| Close road to public vehicle use year-round<br><br>Develop parking area/trailhead at closure points<br><br>Provide toilet at parking area<br><br>Develop and implement trail planning<br><br>Allow permitted group camping by reservation | Current ban of off road vehicle usage, fires, wood cutting<br><br>Allow hunting by permit in Peoria Mountain section<br><br>Designate climbing routes, areas, and route development only if further study shows climbing is impacting sensitive species<br><br>Reseed/restore unauthorized roads and impacted areas<br><br>Build designated trails per trails plan<br><br>Close and restore unauthorized trails<br><br>Implement wildlife management plan<br><br>Implement vegetative management plan | Enforce current ban on shooting except for hunting by permit<br><br>Enforce ban on hunting above (east) and below (to shoreline) PWMA access road<br><br>Close road to public vehicle use year-round | Post boundary maps<br><br>Post selected property boundaries where trespassing and problems occur<br><br>Close road to public vehicle use year-round | Post regulations<br><br>Enforce current ban on fires, camping, dumping, and littering<br><br>Park rangers and other law enforcement officers patrol area two to three times weekly<br><br>Close road to public vehicle use year-round | Grade/maintain road for management and fire control access<br><br>Enter memorandum of understanding (MOU) with California Department of Forestry and Fire Protection (CDF) to maintain road<br><br>Develop climbing management plan if needed<br><br>Develop hunting permit plan<br><br>Develop trails plan<br><br>Develop fire management plan<br><br>Utilize resource and recreation organizations as land steward partners<br><br>Close road to public vehicle use year-round |

| Goals | | | | | |
|---|---|---|---|---|---|
| Provide low-impact rural-natural recreation opportunities and maintain public access | Protect and restore natural, cultural, and wildlife resources | Assure visitor safety and compatible uses | Protect landowner rights | Eliminate illegal and inappropriate uses | Manage the area in a cost- and time-efficient manner (cooperatively) |
| Management Actions | | | | | |
| | Develop and implement trails plan | | | | |
| | Limit camping to group permitted camping by reservation only | | | | |
| | Utilize organizations as stewards of the area | | | | |
| | Environmental interpretation and education | | | | |
| | Close road to public vehicle use year-round | | | | |

**Table A-3.** Alternative 3—Recreational Opportunities

| Goals | | | | | |
|---|---|---|---|---|---|
| Provide low-impact rural-natural recreation opportunities and maintain public access | Protect and restore natural, cultural, and wildlife resources | Assure visitor safety and compatible uses | Protect landowner rights | Eliminate illegal and inappropriate uses | Manage the area in a cost- and time-efficient manner (cooperatively) |
| **Management Actions** | | | | | |
| No access restrictions except cross-fencing when road is open | Enforce current ban of off-road vehicle usage, fires, wood cutting | Enforce current ban on shooting except for hunting by permit | Post boundary maps | Post regulations | Grade/maintain road for seasonal public use |
| Develop parking area/trailhead at seasonal closure points | Designate climbing routes, areas, and route development only if further study shows climbing is impacting sensitive species | Ban hunting above (east of) PWMA access road | Post selected property boundaries where trespassing and problems occur | Enforce current ban of fires, camping, dumping, and littering | Enter MOU with CDF to maintain road |
| Provide toilet at parking area | | Close road Dec 1–May 1 | Close road Dec 1–May 1 | Park rangers and other law enforcement officers patrol area two to three times weekly | Develop hunting permit plan |
| Develop and implement trail plan | Allow hunting by permit in PWMA access road corridor below road to shoreline | | | Utilize recreation organizations as stewards | Develop climbing education program |
| Allow permitted group camping by reservation | Construct vehicle barriers on unauthorized roads | | | Close road Dec 1–May 1 | Develop trails plan |
| Enhance watchable wildlife programs | Reseed/restore unauthorized roads and impacted areas | | | | Utilize resource and recreation organizations as land steward partners |
| Close road Dec 1–May 1 | Build designated trails per trails plan | | | | Close road Dec 1–May 1 |
| | Enhance wildlife watching opportunities | | | | |
| | Close road Dec 1–May 1 | | | | |

**Table A-4.** Alternative 4 (Preferred Alternative)—Resource Protection and Recreation

| Goals | | | | | |
|---|---|---|---|---|---|
| Provide low-impact rural-natural recreation opportunities and maintain public access | Protect and restore natural, cultural, and wildlife resources | Assure visitor safety and compatible uses | Protect landowner rights | Eliminate illegal and inappropriate uses | Manage the area in a cost- and time-efficient manner (cooperatively) |
| **Management Actions** | | | | | |
| Close road to public vehicle use year-round | Enforce current ban of off-road vehicle usage, fires, wood cutting | Enforce current ban on shooting | Post boundary maps | Post regulations | Grade/maintain road for management and fire control access |
| Develop parking area/trailhead at closure points | Allow hunting by permit in Peoria Mountain section | Ban hunting above (east) and below (to shoreline) PWMA access road | Post selected property boundaries where trespassing and problems occur | Enforce current ban of camping, dumping, and littering | Enter MOU with CDF to maintain road |
| Provide toilet at parking area | Designate climbing routes, areas, and route development only if further study shows climbing is impacting sensitive species | Close road to public vehicle use year-round | Survey as necessary to determine unknown boundaries (budget for this) | Park rangers patrol area two to three times weekly | Develop climbing management plan if needed |
| Provide brochure/maps to inform public of recreation opportunities and areas | Year-round road closure to public vehicle use | | Close road to public vehicle use year-round | Enforce laws/regulations re: BLM and Cty SO | Develop hunting permit plan |
| Develop and implement trails plan | Build designated trails per trails plan | | | Close road to public vehicle use year-round | Work to establish MOU or contract with BLM and County Sheriff's Office for law enforcement |
| Allow permitted group camping by reservation | Close and restore unauthorized trails | | | Utilize recreation organizations as stewards | Develop trails plan |
| | Implement wildlife management plan | | | | Utilize resource and recreation organizations as land steward partners |
| | Implement vegetative management plan | | | | Develop fire management plan |

| Goals | | | | | |
|---|---|---|---|---|---|
| Provide low-impact rural-natural recreation opportunities and maintain public access | Protect and restore natural, cultural, and wildlife resources | Assure visitor safety and compatible uses | Protect landowner rights | Eliminate illegal and inappropriate uses | Manage the area in a cost- and time-efficient manner (cooperatively) |
| Management Actions | | | | | |
| | Environmental interpretation | | | | Close road to public vehicle use year-round |
| | Limit camping to group permitted camping by reservation only | | | | |
| | Utilize recreation organizations as stewards | | | | |
| | Reseed/restore unauthorized roads and impacted areas | | | | |

**Table A-5.** Alternative 5—Area Closed to Recreation

| Goals | | | | | |
|---|---|---|---|---|---|
| Provide low-impact rural-natural recreation opportunities and maintain public access | Protect and restore natural, cultural, and wildlife resources | Assure visitor safety and compatible uses | Protect landowner rights | Eliminate illegal and inappropriate uses | Manage the area in a cost- and time-efficient manner (cooperatively) |
| **Management Actions** | | | | | |
| Year-round road and area closure to public vehicle use | Enforce current ban of off-road vehicle usage, fires, wood cutting<br><br>Allow hunting by permit in Peoria Mountain section<br><br>Close and restore unauthorized trails<br><br>Implement wildlife management plan<br><br>Implement vegetative management plan<br><br>Reseed/restore unauthorized roads and impacted areas<br><br>Year-round road and area closure to all public use | Enforce current ban on shooting<br><br>Year-round road and area closure to all public use | Post selected property boundaries where trespassing and problems occur<br><br>Survey as necessary to determine unknown boundaries (budget for this)<br><br>Year-round road and area closure to all public use | Post “No Trespassing”<br><br>Current ban of camping, dumping, and littering<br><br>Park rangers patrol area two to three times weekly<br><br>Enforce laws/regulation re: BLM and County Sheriff’s Office<br><br>Year-round road and area closure to all public use | Grade/maintain road for management and fire control access<br><br>Enter MOU with CDF to maintain road<br><br>Work to establish MOU or contract with BLM and County Sheriff’s Office for law enforcement<br><br>Develop fire management plan<br><br>Develop hunting permit plan<br><br>Year-round road and area closure to all public use |

Appendix B

# Consultation and Coordination Documentation

# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

February 10, 2005

Document Number: 050210034621

Edward W. West, Ph.D.
Jones & Stokes, Inc.
2600 V Street
Sacramento, CA 95818

Subject: Species List for Shell Road Corridor Environmental Assessment

Dear: Dr. West

We are sending this official species list in response to your February 10, 2005 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested. You have stated that this list is not for consultation with the Fish & Wildlife Service.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area.* For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be May 11, 2005.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at sacramento.fws.gov/es/branches.htm.

Endangered Species Division

**Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested**

**Document Number: 050210034621**

**Database Last Updated: January 19, 2005**

# Quad Lists

## SONORA (458B)

### Listed Species

***Invertebrates***

*Desmocerus californicus dimorphus* - valley elderberry longhorn beetle (T)

***Fish***

*Hypomesus transpacificus* - delta smelt (T)
*Oncorhynchus mykiss* - Central Valley steelhead (T) (NMFS)
*Oncorhynchus tshawytscha* - Central Valley spring-run chinook salmon (T) (NMFS)
*Oncorhynchus tshawytscha* - winter-run chinook salmon (E) (NMFS)

***Amphibians***

*Ambystoma californiense* - California tiger salamander (T)
*Rana aurora draytonii* - California red-legged frog (T)

***Birds***

*Haliaeetus leucocephalus* - bald eagle (T)

***Plants***

*Brodiaea pallida* - Chinese Camp brodiaea (T)
*Verbena californica* - Red Hills (=California) vervain (T)

### Candidate Species

***Fish***

*Oncorhynchus tshawytscha* - Central Valley fall/late fall-run chinook salmon (C) (NMFS)

### Species of Concern

***Invertebrates***

*Monadenia mormonum hirsuta* - Hirsute Sierra sideband snail (SC)

***Fish***

*Lavinia symmetricus* - Red Hills roach (SC)
*Pogonichthys macrolepidotus* - Sacramento splittail (SC)

*Spirinchus thaleichthys* - longfin smelt (SC)

***Amphibians***

*Rana boylii* - foothill yellow-legged frog (SC)

***Reptiles***

*Clemmys marmorata marmorata* - northwestern pond turtle (SC)
*Clemmys marmorata pallida* - southwestern pond turtle (SC)
*Phrynosoma coronatum frontale* - California horned lizard (SC)

***Birds***

*Agelaius tricolor* - tricolored blackbird (SC)
*Amphispiza belli belli* - Bell's sage sparrow (SC)
*Athene cunicularia hypugaea* - western burrowing owl (SC)
*Baeolophus inornatus* - oak titmouse (SLC)
*Carduelis lawrencei* - Lawrence's goldfinch (SC)
*Chaetura vauxi* - Vaux's swift (SC)
*Cypseloides niger* - black swift (SC)
*Elanus leucurus* - white-tailed (=black shouldered) kite (SC)
*Empidonax traillii brewsteri* - little willow flycatcher (CA)
*Falco peregrinus anatum* - American peregrine falcon (D)
*Lanius ludovicianus* - loggerhead shrike (SC)
*Melanerpes lewis* - Lewis' woodpecker (SC)
*Numenius americanus* - long-billed curlew (SC)
*Picoides nuttallii* - Nuttall's woodpecker (SLC)
*Selasphorus rufus* - rufous hummingbird (SC)
*Toxostoma redivivum* - California thrasher (SC)

***Mammals***

*Corynorhinus (=Plecotus) townsendii townsendii* - Pacific western big-eared bat (SC)
*Euderma maculatum* - spotted bat (SC)
*Eumops perotis californicus* - greater western mastiff-bat (SC)
*Myotis ciliolabrum* - small-footed myotis bat (SC)
*Myotis evotis* - long-eared myotis bat (SC)
*Myotis thysanodes* - fringed myotis bat (SC)
*Myotis volans* - long-legged myotis bat (SC)
*Myotis yumanensis* - Yuma myotis bat (SC)
*Perognathus inornatus* - San Joaquin pocket mouse (SC)

***Plants***

*Allium jepsonii* - Jepson's onion (SC)
*Allium tuolumnense* - Rawhide Hill onion (SC)
*Arctostaphylos nissenana* - Nissenan manzanita (SC)
*Chlorogalum grandiflorum* - Red Hills soaproot (SC)
*Clarkia biloba ssp. australis* - Mariposa clarkia (SC)
*Eryngium pinnatisectum* - Tuolumne coyote-thistle (=button-celery) (SC)
*Helianthemum suffrutescens* - Amador (Bisbee Peak) rush-rose (SLC)

*Lomatium congdonii* - Congdon's lomatium (SC)
*Lupinus spectabilis* - shaggyhair lupine (SC)

**CHINESE CAMP (458C)**

## Listed Species

***Invertebrates***

*Desmocerus californicus dimorphus* - valley elderberry longhorn beetle (T)

***Fish***

*Hypomesus transpacificus* - delta smelt (T)
*Oncorhynchus mykiss* - Central Valley steelhead (T) (NMFS)
*Oncorhynchus tshawytscha* - Central Valley spring-run chinook salmon (T) (NMFS)
*Oncorhynchus tshawytscha* - winter-run chinook salmon (E) (NMFS)

***Amphibians***

*Ambystoma californiense* - California tiger salamander (T)
*Rana aurora draytonii* - California red-legged frog (T)

***Birds***

*Haliaeetus leucocephalus* - bald eagle (T)

***Plants***

*Brodiaea pallida* - Chinese Camp brodiaea (T)
*Senecio layneae* - Layne's butterweed (=ragwort) (T)
*Verbena californica* - Red Hills (=California) vervain (T)

## Candidate Species

***Fish***

*Oncorhynchus tshawytscha* - Central Valley fall/late fall-run chinook salmon (C) (NMFS)

## Species of Concern

***Invertebrates***

*Monadenia mormonum hirsuta* - Hirsute Sierra sideband snail (SC)

***Fish***

*Lavinia symmetricus* - Red Hills roach (SC)
*Pogonichthys macrolepidotus* - Sacramento splittail (SC)
*Spirinchus thaleichthys* - longfin smelt (SC)

***Amphibians***

*Rana boylii* - foothill yellow-legged frog (SC)

***Reptiles***

*Clemmys marmorata marmorata* - northwestern pond turtle (SC)
*Clemmys marmorata pallida* - southwestern pond turtle (SC)
*Phrynosoma coronatum frontale* - California horned lizard (SC)

***Birds***

*Agelaius tricolor* - tricolored blackbird (SC)
*Amphispiza belli belli* - Bell's sage sparrow (SC)
*Athene cunicularia hypugaea* - western burrowing owl (SC)
*Baeolophus inornatus* - oak titmouse (SLC)
*Carduelis lawrencei* - Lawrence's goldfinch (SC)
*Chaetura vauxi* - Vaux's swift (SC)
*Cypseloides niger* - black swift (SC)
*Elanus leucurus* - white-tailed (=black shouldered) kite (SC)
*Empidonax traillii brewsteri* - little willow flycatcher (CA)
*Falco peregrinus anatum* - American peregrine falcon (D)
*Lanius ludovicianus* - loggerhead shrike (SC)
*Melanerpes lewis* - Lewis' woodpecker (SC)
*Numenius americanus* - long-billed curlew (SC)
*Picoides nuttallii* - Nuttall's woodpecker (SLC)
*Selasphorus rufus* - rufous hummingbird (SC)
*Toxostoma redivivum* - California thrasher (SC)

***Mammals***

*Corynorhinus (=Plecotus) townsendii townsendii* - Pacific western big-eared bat (SC)
*Euderma maculatum* - spotted bat (SC)
*Eumops perotis californicus* - greater western mastiff-bat (SC)
*Myotis ciliolabrum* - small-footed myotis bat (SC)
*Myotis evotis* - long-eared myotis bat (SC)
*Myotis thysanodes* - fringed myotis bat (SC)
*Myotis volans* - long-legged myotis bat (SC)
*Myotis yumanensis* - Yuma myotis bat (SC)
*Perognathus inornatus* - San Joaquin pocket mouse (SC)

***Plants***

*Allium tuolumnense* - Rawhide Hill onion (SC)
*Chlorogalum grandiflorum* - Red Hills soaproot (SC)
*Eryngium pinnatisectum* - Tuolumne coyote-thistle (=button-celery) (SC)
*Fritillaria agrestis* - stinkbells (SLC)
*Lomatium congdonii* - Congdon's lomatium (SC)
*Senecio clevelandii var. heterophyllus* - Red Hills ragwort (SLC)

## NEW MELONES DAM (459A)

### Listed Species

***Invertebrates***

*Desmocerus californicus dimorphus* - valley elderberry longhorn beetle (T)

***Fish***

*Hypomesus transpacificus* - delta smelt (T)
*Oncorhynchus mykiss* - Central Valley steelhead (T) (NMFS)
*Oncorhynchus tshawytscha* - Central Valley spring-run chinook salmon (T) (NMFS)
*Oncorhynchus tshawytscha* - winter-run chinook salmon (E) (NMFS)

***Amphibians***

*Ambystoma californiense* - California tiger salamander (T)
*Rana aurora draytonii* - California red-legged frog (T)

***Birds***

*Haliaeetus leucocephalus* - bald eagle (T)

***Plants***

*Brodiaea pallida* - Chinese Camp brodiaea (T)

## Candidate Species

***Fish***

*Acipenser medirostris* - green sturgeon (C)
*Oncorhynchus tshawytscha* - Central Valley fall/late fall-run chinook salmon (C) (NMFS)

## Species of Concern

***Fish***

*Lampetra ayresi* - river lamprey (SC)
*Lampetra hubbsi* - Kern brook lamprey (SC)
*Lampetra tridentata* - Pacific lamprey (SC)
*Pogonichthys macrolepidotus* - Sacramento splittail (SC)
*Spirinchus thaleichthys* - longfin smelt (SC)

***Reptiles***

*Clemmys marmorata marmorata* - northwestern pond turtle (SC)
*Clemmys marmorata pallida* - southwestern pond turtle (SC)
*Phrynosoma coronatum frontale* - California horned lizard (SC)

***Birds***

*Agelaius tricolor* - tricolored blackbird (SC)
*Amphispiza belli belli* - Bell's sage sparrow (SC)
*Athene cunicularia hypugaea* - western burrowing owl (SC)
*Baeolophus inornatus* - oak titmouse (SLC)

*Carduelis lawrencei* - Lawrence's goldfinch (SC)
*Chaetura vauxi* - Vaux's swift (SC)
*Cypseloides niger* - black swift (SC)
*Elanus leucurus* - white-tailed (=black shouldered) kite (SC)
*Empidonax traillii brewsteri* - little willow flycatcher (CA)
*Falco peregrinus anatum* - American peregrine falcon (D)
*Grus canadensis tabida* - greater sandhill crane (CA)
*Lanius ludovicianus* - loggerhead shrike (SC)
*Melanerpes lewis* - Lewis' woodpecker (SC)
*Numenius americanus* - long-billed curlew (SC)
*Picoides nuttallii* - Nuttall's woodpecker (SLC)
*Selasphorus rufus* - rufous hummingbird (SC)
*Toxostoma redivivum* - California thrasher (SC)

***Mammals***

*Corynorhinus (=Plecotus) townsendii townsendii* - Pacific western big-eared bat (SC)
*Euderma maculatum* - spotted bat (SC)
*Eumops perotis californicus* - greater western mastiff-bat (SC)
*Myotis ciliolabrum* - small-footed myotis bat (SC)
*Myotis evotis* - long-eared myotis bat (SC)
*Myotis thysanodes* - fringed myotis bat (SC)
*Myotis volans* - long-legged myotis bat (SC)
*Myotis yumanensis* - Yuma myotis bat (SC)
*Perognathus inornatus* - San Joaquin pocket mouse (SC)

***Plants***

*Agrostis hendersonii* - Henderson's bent grass (SC)
*Chlorogalum grandiflorum* - Red Hills soaproot (SC)
*Clarkia rostrata* - beaked clarkia (SC)
*Eryngium pinnatisectum* - Tuolumne coyote-thistle (=button-celery) (SC)
*Eryngium spinosepalum* - spiny-sepaled coyote-thistle (=button-celery) (SC)
*Lomatium congdonii* - Congdon's lomatium (SC)
*Monardella douglasii ssp. venosa* - veiny monardella (SC)

## COPPEROPOLIS (459B)

### Listed Species

***Invertebrates***

- Critical habitat, vernal pool invertebrates (X)
*Desmocerus californicus dimorphus* - valley elderberry longhorn beetle (T)
*Lepidurus packardi* - vernal pool tadpole shrimp (E)

***Fish***

*Hypomesus transpacificus* - delta smelt (T)
*Oncorhynchus mykiss* - Central Valley steelhead (T) (NMFS)
*Oncorhynchus tshawytscha* - Central Valley spring-run chinook salmon (T) (NMFS)
*Oncorhynchus tshawytscha* - winter-run chinook salmon (E) (NMFS)

***Amphibians***

*Ambystoma californiense* - California tiger salamander (T)
*Rana aurora draytonii* - California red-legged frog (T)

***Birds***

*Haliaeetus leucocephalus* - bald eagle (T)

***Plants***

- Critical habitat, vernal pool plants (X)
*Brodiaea pallida* - Chinese Camp brodiaea (T)

## Candidate Species

***Fish***

*Acipenser medirostris* - green sturgeon (C)
*Oncorhynchus tshawytscha* - Central Valley fall/late fall-run chinook salmon (C) (NMFS)

## Species of Concern

***Invertebrates***

*Branchinecta mesovallensis* - Midvalley fairy shrimp (SC)
*Lytta molesta* - molestan blister beetle (SC)

***Fish***

*Lampetra ayresi* - river lamprey (SC)
*Lampetra hubbsi* - Kern brook lamprey (SC)
*Lampetra tridentata* - Pacific lamprey (SC)
*Pogonichthys macrolepidotus* - Sacramento splittail (SC)
*Spirinchus thaleichthys* - longfin smelt (SC)

***Reptiles***

*Anniella pulchra pulchra* - silvery legless lizard (SC)
*Clemmys marmorata marmorata* - northwestern pond turtle (SC)
*Clemmys marmorata pallida* - southwestern pond turtle (SC)
*Phrynosoma coronatum frontale* - California horned lizard (SC)

***Birds***

*Agelaius tricolor* - tricolored blackbird (SC)
*Amphispiza belli belli* - Bell's sage sparrow (SC)
*Athene cunicularia hypugaea* - western burrowing owl (SC)
*Branta canadensis leucopareia* - Aleutian Canada goose (D)
*Buteo regalis* - ferruginous hawk (SC)
*Calypte costae* - Costa's hummingbird (SC)
*Carduelis lawrencei* - Lawrence's goldfinch (SC)
*Chaetura vauxi* - Vaux's swift (SC)

*Charadrius montanus* - mountain plover (SC)
*Cypseloides niger* - black swift (SC)
*Elanus leucurus* - white-tailed (=black shouldered) kite (SC)
*Empidonax traillii brewsteri* - little willow flycatcher (CA)
*Falco peregrinus anatum* - American peregrine falcon (D)
*Grus canadensis tabida* - greater sandhill crane (CA)
*Lanius ludovicianus* - loggerhead shrike (SC)
*Melanerpes lewis* - Lewis' woodpecker (SC)
*Numenius americanus* - long-billed curlew (SC)
*Picoides nuttallii* - Nuttall's woodpecker (SLC)
*Selasphorus rufus* - rufous hummingbird (SC)
*Toxostoma redivivum* - California thrasher (SC)

***Mammals***

*Corynorhinus (=Plecotus) townsendii townsendii* - Pacific western big-eared bat (SC)
*Euderma maculatum* - spotted bat (SC)
*Eumops perotis californicus* - greater western mastiff-bat (SC)
*Myotis ciliolabrum* - small-footed myotis bat (SC)
*Myotis evotis* - long-eared myotis bat (SC)
*Myotis thysanodes* - fringed myotis bat (SC)
*Myotis volans* - long-legged myotis bat (SC)
*Myotis yumanensis* - Yuma myotis bat (SC)
*Perognathus inornatus* - San Joaquin pocket mouse (SC)

***Plants***

*Eryngium pinnatisectum* - Tuolumne coyote-thistle (=button-celery) (SC)

## KNIGHTS FERRY (459C)

### Listed Species

***Invertebrates***

- Critical habitat, vernal pool invertebrates (X)
*Desmocerus californicus dimorphus* - valley elderberry longhorn beetle (T)
*Lepidurus packardi* - Critical habitat, vernal pool tadpole shrimp (X)
*Lepidurus packardi* - vernal pool tadpole shrimp (E)

***Fish***

*Hypomesus transpacificus* - delta smelt (T)
*Oncorhynchus mykiss* - Central Valley steelhead (T) (NMFS)
*Oncorhynchus tshawytscha* - Central Valley spring-run chinook salmon (T) (NMFS)
*Oncorhynchus tshawytscha* - winter-run chinook salmon (E) (NMFS)

***Amphibians***

*Ambystoma californiense* - California tiger salamander (T)
*Rana aurora draytonii* - California red-legged frog (T)

***Birds***

*Haliaeetus leucocephalus* - bald eagle (T)

***Mammals***

*Vulpes macrotis mutica* - San Joaquin kit fox (E)

***Plants***

- Critical habitat, vernal pool plants (X)
*Neostapfia colusana* - Colusa grass (T)
*Pseudobahia bahiifolia* - Hartweg's golden sunburst (E)

## Candidate Species

***Fish***

*Acipenser medirostris* - green sturgeon (C)
*Oncorhynchus tshawytscha* - Central Valley fall/late fall-run chinook salmon (C) (NMFS)

## Species of Concern

***Invertebrates***

*Branchinecta mesovallensis* - Midvalley fairy shrimp (SC)
*Lytta molesta* - molestan blister beetle (SC)

***Fish***

*Lampetra ayresi* - river lamprey (SC)
*Lampetra hubbsi* - Kern brook lamprey (SC)
*Lampetra tridentata* - Pacific lamprey (SC)
*Pogonichthys macrolepidotus* - Sacramento splittail (SC)
*Spirinchus thaleichthys* - longfin smelt (SC)

***Reptiles***

*Anniella pulchra pulchra* - silvery legless lizard (SC)
*Clemmys marmorata marmorata* - northwestern pond turtle (SC)
*Clemmys marmorata pallida* - southwestern pond turtle (SC)
*Phrynosoma coronatum frontale* - California horned lizard (SC)

***Birds***

*Agelaius tricolor* - tricolored blackbird (SC)
*Amphispiza belli belli* - Bell's sage sparrow (SC)
*Athene cunicularia hypugaea* - western burrowing owl (SC)
*Branta canadensis leucopareia* - Aleutian Canada goose (D)
*Buteo regalis* - ferruginous hawk (SC)
*Calypte costae* - Costa's hummingbird (SC)
*Carduelis lawrencei* - Lawrence's goldfinch (SC)
*Chaetura vauxi* - Vaux's swift (SC)
*Charadrius montanus* - mountain plover (SC)
*Elanus leucurus* - white-tailed (=black shouldered) kite (SC)

*Empidonax traillii brewsteri* - little willow flycatcher (CA)
*Falco peregrinus anatum* - American peregrine falcon (D)
*Grus canadensis tabida* - greater sandhill crane (CA)
*Lanius ludovicianus* - loggerhead shrike (SC)
*Melanerpes lewis* - Lewis' woodpecker (SC)
*Numenius americanus* - long-billed curlew (SC)
*Picoides nuttallii* - Nuttall's woodpecker (SLC)
*Selasphorus rufus* - rufous hummingbird (SC)

***Mammals***

*Corynorhinus (=Plecotus) townsendii townsendii* - Pacific western big-eared bat (SC)
*Dipodomys heermanni dixoni* - Merced kangaroo rat (SC)
*Euderma maculatum* - spotted bat (SC)
*Eumops perotis californicus* - greater western mastiff-bat (SC)
*Myotis ciliolabrum* - small-footed myotis bat (SC)
*Myotis evotis* - long-eared myotis bat (SC)
*Myotis thysanodes* - fringed myotis bat (SC)
*Myotis volans* - long-legged myotis bat (SC)
*Myotis yumanensis* - Yuma myotis bat (SC)
*Perognathus inornatus* - San Joaquin pocket mouse (SC)

***Plants***

*Clarkia rostrata* - beaked clarkia (SC)
*Fritillaria agrestis* - stinkbells (SLC)

**KEYSTONE (459D)**

## Listed Species

***Invertebrates***

- Critical habitat, vernal pool invertebrates (X)
*Desmocerus californicus dimorphus* - valley elderberry longhorn beetle (T)

***Fish***

*Hypomesus transpacificus* - delta smelt (T)
*Oncorhynchus mykiss* - Central Valley steelhead (T) (NMFS)
*Oncorhynchus tshawytscha* - Central Valley spring-run chinook salmon (T) (NMFS)
*Oncorhynchus tshawytscha* - winter-run chinook salmon (E) (NMFS)

***Amphibians***

*Ambystoma californiense* - California tiger salamander (T)
*Rana aurora draytonii* - California red-legged frog (T)

***Birds***

*Haliaeetus leucocephalus* - bald eagle (T)

***Mammals***

*Vulpes macrotis mutica* - San Joaquin kit fox (E)

***Plants***

- Critical habitat, vernal pool plants (X)
*Verbena californica* - Red Hills (=California) vervain (T)

## Candidate Species

***Fish***

*Acipenser medirostris* - green sturgeon (C)
*Oncorhynchus tshawytscha* - Central Valley fall/late fall-run chinook salmon (C) (NMFS)

## Species of Concern

***Invertebrates***

*Branchinecta mesovallensis* - Midvalley fairy shrimp (SC)

***Fish***

*Lampetra ayresi* - river lamprey (SC)
*Lampetra hubbsi* - Kern brook lamprey (SC)
*Lampetra tridentata* - Pacific lamprey (SC)
*Lavinia symmetricus* - Red Hills roach (SC)
*Pogonichthys macrolepidotus* - Sacramento splittail (SC)
*Spirinchus thaleichthys* - longfin smelt (SC)

***Reptiles***

*Clemmys marmorata marmorata* - northwestern pond turtle (SC)
*Clemmys marmorata pallida* - southwestern pond turtle (SC)
*Phrynosoma coronatum frontale* - California horned lizard (SC)

***Birds***

*Agelaius tricolor* - tricolored blackbird (SC)
*Amphispiza belli belli* - Bell's sage sparrow (SC)
*Athene cunicularia hypugaea* - western burrowing owl (SC)
*Branta canadensis leucopareia* - Aleutian Canada goose (D)
*Buteo regalis* - ferruginous hawk (SC)
*Calypte costae* - Costa's hummingbird (SC)
*Carduelis lawrencei* - Lawrence's goldfinch (SC)
*Chaetura vauxi* - Vaux's swift (SC)
*Charadrius montanus* - mountain plover (SC)
*Cypseloides niger* - black swift (SC)
*Elanus leucurus* - white-tailed (=black shouldered) kite (SC)
*Empidonax traillii brewsteri* - little willow flycatcher (CA)
*Falco peregrinus anatum* - American peregrine falcon (D)
*Grus canadensis tabida* - greater sandhill crane (CA)
*Lanius ludovicianus* - loggerhead shrike (SC)

*Melanerpes lewis* - Lewis' woodpecker (SC)
*Numenius americanus* - long-billed curlew (SC)
*Picoides nuttallii* - Nuttall's woodpecker (SLC)
*Selasphorus rufus* - rufous hummingbird (SC)
*Toxostoma redivivum* - California thrasher (SC)

***Mammals***

*Corynorhinus (=Plecotus) townsendii townsendii* - Pacific western big-eared bat (SC)
*Dipodomys heermanni dixoni* - Merced kangaroo rat (SC)
*Euderma maculatum* - spotted bat (SC)
*Eumops perotis californicus* - greater western mastiff-bat (SC)
*Myotis ciliolabrum* - small-footed myotis bat (SC)
*Myotis evotis* - long-eared myotis bat (SC)
*Myotis thysanodes* - fringed myotis bat (SC)
*Myotis volans* - long-legged myotis bat (SC)
*Myotis yumanensis* - Yuma myotis bat (SC)
*Perognathus inornatus* - San Joaquin pocket mouse (SC)

***Plants***

*Calycadenia hooveri* - Hoover's caycadenia (SLC)
*Chlorogalum grandiflorum* - Red Hills soaproot (SC)
*Lomatium congdonii* - Congdon's lomatium (SC)

**COLUMBIA (475C)**

## Listed Species

***Invertebrates***

*Desmocerus californicus dimorphus* - valley elderberry longhorn beetle (T)

***Fish***

*Hypomesus transpacificus* - delta smelt (T)
*Oncorhynchus mykiss* - Central Valley steelhead (T) (NMFS)

***Amphibians***

*Ambystoma californiense* - California tiger salamander (T)
*Rana aurora draytonii* - California red-legged frog (T)

***Birds***

*Haliaeetus leucocephalus* - bald eagle (T)

## Species of Concern

***Fish***

*Lavinia symmetricus* - Red Hills roach (SC)
*Pogonichthys macrolepidotus* - Sacramento splittail (SC)

*Spirinchus thaleichthys* - longfin smelt (SC)

***Amphibians***

*Rana boylii* - foothill yellow-legged frog (SC)

***Reptiles***

*Clemmys marmorata marmorata* - northwestern pond turtle (SC)
*Clemmys marmorata pallida* - southwestern pond turtle (SC)
*Phrynosoma coronatum frontale* - California horned lizard (SC)

***Birds***

*Agelaius tricolor* - tricolored blackbird (SC)
*Athene cunicularia hypugaea* - western burrowing owl (SC)
*Baeolophus inornatus* - oak titmouse (SLC)
*Carduelis lawrencei* - Lawrence's goldfinch (SC)
*Chaetura vauxi* - Vaux's swift (SC)
*Cypseloides niger* - black swift (SC)
*Empidonax traillii brewsteri* - little willow flycatcher (CA)
*Falco peregrinus anatum* - American peregrine falcon (D)
*Lanius ludovicianus* - loggerhead shrike (SC)
*Melanerpes lewis* - Lewis' woodpecker (SC)
*Numenius americanus* - long-billed curlew (SC)
*Picoides nuttallii* - Nuttall's woodpecker (SLC)
*Selasphorus rufus* - rufous hummingbird (SC)
*Toxostoma redivivum* - California thrasher (SC)

***Mammals***

*Euderma maculatum* - spotted bat (SC)
*Eumops perotis californicus* - greater western mastiff-bat (SC)
*Myotis evotis* - long-eared myotis bat (SC)
*Myotis thysanodes* - fringed myotis bat (SC)
*Myotis volans* - long-legged myotis bat (SC)
*Myotis yumanensis* - Yuma myotis bat (SC)

***Plants***

*Eryngium pinnatisectum* - Tuolumne coyote-thistle (=button-celery) (SC)
*Erythronium tuolumnense* - Tuolumne fawn lily (SC)
*Iris hartwegii ssp columbiana* - Tuolumne (=rainbow) iris (SLC)

## SALT SPRING VALLEY (476C)

### Listed Species

***Invertebrates***

*Desmocerus californicus dimorphus* - valley elderberry longhorn beetle (T)

***Fish***

*Hypomesus transpacificus* - delta smelt (T)
*Oncorhynchus mykiss* - Central Valley steelhead (T) (NMFS)

***Amphibians***

*Ambystoma californiense* - California tiger salamander (T)
*Rana aurora draytonii* - California red-legged frog (T)

***Birds***

*Haliaeetus leucocephalus* - bald eagle (T)

## Candidate Species

***Fish***

*Oncorhynchus tshawytscha* - Central Valley fall/late fall-run chinook salmon (C) (NMFS)

## Species of Concern

***Fish***

*Lampetra hubbsi* - Kern brook lamprey (SC)
*Pogonichthys macrolepidotus* - Sacramento splittail (SC)
*Spirinchus thaleichthys* - longfin smelt (SC)

***Amphibians***

*Rana boylii* - foothill yellow-legged frog (SC)
*Spea hammondii* - western spadefoot toad (SC)

***Reptiles***

*Clemmys marmorata marmorata* - northwestern pond turtle (SC)
*Clemmys marmorata pallida* - southwestern pond turtle (SC)
*Phrynosoma coronatum frontale* - California horned lizard (SC)

***Birds***

*Agelaius tricolor* - tricolored blackbird (SC)
*Amphispiza belli belli* - Bell's sage sparrow (SC)
*Athene cunicularia hypugaea* - western burrowing owl (SC)
*Baeolophus inornatus* - oak titmouse (SLC)
*Carduelis lawrencei* - Lawrence's goldfinch (SC)
*Chaetura vauxi* - Vaux's swift (SC)
*Cypseloides niger* - black swift (SC)
*Elanus leucurus* - white-tailed (=black shouldered) kite (SC)
*Empidonax traillii brewsteri* - little willow flycatcher (CA)
*Falco peregrinus anatum* - American peregrine falcon (D)
*Grus canadensis tabida* - greater sandhill crane (CA)
*Lanius ludovicianus* - loggerhead shrike (SC)
*Melanerpes lewis* - Lewis' woodpecker (SC)
*Numenius americanus* - long-billed curlew (SC)

*Picoides nuttallii* - Nuttall's woodpecker (SLC)
*Selasphorus rufus* - rufous hummingbird (SC)
*Toxostoma redivivum* - California thrasher (SC)

***Mammals***

*Corynorhinus (=Plecotus) townsendii townsendii* - Pacific western big-eared bat (SC)
*Euderma maculatum* - spotted bat (SC)
*Eumops perotis californicus* - greater western mastiff-bat (SC)
*Myotis evotis* - long-eared myotis bat (SC)
*Myotis thysanodes* - fringed myotis bat (SC)
*Myotis volans* - long-legged myotis bat (SC)
*Myotis yumanensis* - Yuma myotis bat (SC)
*Perognathus inornatus* - San Joaquin pocket mouse (SC)

***Plants***

*Eryngium pinnatisectum* - Tuolumne coyote-thistle (=button-celery) (SC)

## ANGELS CAMP (476D)

### Listed Species

***Invertebrates***

*Desmocerus californicus dimorphus* - valley elderberry longhorn beetle (T)

***Fish***

*Hypomesus transpacificus* - delta smelt (T)
*Oncorhynchus mykiss* - Central Valley steelhead (T) (NMFS)

***Amphibians***

*Ambystoma californiense* - California tiger salamander (T)
*Rana aurora draytonii* - California red-legged frog (T)

***Birds***

*Haliaeetus leucocephalus* - bald eagle (T)

### Species of Concern

***Fish***

*Pogonichthys macrolepidotus* - Sacramento splittail (SC)
*Spirinchus thaleichthys* - longfin smelt (SC)

***Amphibians***

*Rana boylii* - foothill yellow-legged frog (SC)
*Spea hammondii* - western spadefoot toad (SC)

***Reptiles***

*Clemmys marmorata marmorata* - northwestern pond turtle (SC)
*Clemmys marmorata pallida* - southwestern pond turtle (SC)
*Phrynosoma coronatum frontale* - California horned lizard (SC)

***Birds***

*Agelaius tricolor* - tricolored blackbird (SC)
*Amphispiza belli belli* - Bell's sage sparrow (SC)
*Athene cunicularia hypugaea* - western burrowing owl (SC)
*Baeolophus inornatus* - oak titmouse (SLC)
*Carduelis lawrencei* - Lawrence's goldfinch (SC)
*Chaetura vauxi* - Vaux's swift (SC)
*Cypseloides niger* - black swift (SC)
*Elanus leucurus* - white-tailed (=black shouldered) kite (SC)
*Empidonax traillii brewsteri* - little willow flycatcher (CA)
*Falco peregrinus anatum* - American peregrine falcon (D)
*Grus canadensis tabida* - greater sandhill crane (CA)
*Lanius ludovicianus* - loggerhead shrike (SC)
*Melanerpes lewis* - Lewis' woodpecker (SC)
*Numenius americanus* - long-billed curlew (SC)
*Picoides nuttallii* - Nuttall's woodpecker (SLC)
*Selasphorus rufus* - rufous hummingbird (SC)
*Toxostoma redivivum* - California thrasher (SC)

***Mammals***

*Corynorhinus (=Plecotus) townsendii townsendii* - Pacific western big-eared bat (SC)
*Euderma maculatum* - spotted bat (SC)
*Eumops perotis californicus* - greater western mastiff-bat (SC)
*Myotis evotis* - long-eared myotis bat (SC)
*Myotis thysanodes* - fringed myotis bat (SC)
*Myotis volans* - long-legged myotis bat (SC)
*Myotis yumanensis* - Yuma myotis bat (SC)

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## County Lists

### Butte County

**Listed Species**

***Invertebrates***

*Branchinecta conservatio* - Conservancy fairy shrimp (E)
*Branchinecta lynchi* - Critical habitat, vernal pool fairy shrimp (X)
*Branchinecta lynchi* - vernal pool fairy shrimp (T)
*Desmocerus californicus dimorphus* - valley elderberry longhorn beetle (T)

*Lepidurus packardi* - Critical habitat, vernal pool tadpole shrimp (X)
*Lepidurus packardi* - vernal pool tadpole shrimp (E)

***Fish***

*Hypomesus transpacificus* - delta smelt (T)
*Oncorhynchus mykiss* - Central Valley steelhead (T) (NMFS)
*Oncorhynchus tshawytscha* - Central Valley spring-run chinook salmon (T) (NMFS)
*Oncorhynchus tshawytscha* - Critical habitat, winter-run chinook salmon (E) (NMFS)
*Oncorhynchus tshawytscha* - winter-run chinook salmon (E) (NMFS)

***Amphibians***

*Ambystoma californiense* - California tiger salamander (T)
*Rana aurora draytonii* - California red-legged frog (T)

***Reptiles***

*Thamnophis gigas* - giant garter snake (T)

***Birds***

*Haliaeetus leucocephalus* - bald eagle (T)

***Plants***

*Chamaesyce hooveri* - Hoover's spurge (T)
*Limnanthes floccosa ssp. californica* - Butte County (Shippee) meadowfoam (E)
*Orcuttia pilosa* - hairy Orcutt grass (E)
*Orcuttia tenuis* - slender Orcutt grass (T)
*Tuctoria greenei* - Greene's tuctoria (=Orcutt grass) (E)

**Proposed Species**

***Amphibians***

*Rana aurora draytonii* - Critical habitat, California red-legged frog (Proposed) (PX)

**Candidate Species**

***Fish***

*Acipenser medirostris* - green sturgeon (C)
*Oncorhynchus tshawytscha* - Central Valley fall/late fall-run chinook salmon (C) (NMFS)
*Oncorhynchus tshawytscha* - Critical habitat, Central Valley fall/late fall-run chinook (C) (NMFS)

***Amphibians***

*Rana muscosa* - mountain yellow-legged frog (C)

***Birds***

*Coccyzus americanus occidentalis* - Western yellow-billed cuckoo (C)

***Mammals***

*Martes pennanti* - fisher (C)

**Species of Concern**

***Invertebrates***

*Anthicus sacramento* - Sacramento anthicid beetle (SC)
*Cicindela hirticollis abrupta* - Sacramento Valley tiger beetle (SC)
*Linderiella occidentalis* - California linderiella fairy shrimp (SC)

***Fish***

*Lampetra ayresi* - river lamprey (SC)
*Pogonichthys macrolepidotus* - Sacramento splittail (SC)
*Spirinchus thaleichthys* - longfin smelt (SC)

***Amphibians***

*Rana boylii* - foothill yellow-legged frog (SC)
*Rana cascadae* - Cascades frog (SC)
*Spea hammondii* - western spadefoot toad (SC)

***Reptiles***

*Clemmys marmorata marmorata* - northwestern pond turtle (SC)
*Masticophis flagellum ruddocki* - San Joaquin coachwhip (=whipsnake) (SC)
*Phrynosoma coronatum frontale* - California horned lizard (SC)

***Birds***

*Accipiter gentilis* - northern goshawk (SC)
*Agelaius tricolor* - tricolored blackbird (SC)
*Athene cunicularia hypugaea* - western burrowing owl (SC)
*Baeolophus inornatus* - oak titmouse (SLC)
*Botaurus lentiginosus* - American bittern (SC)
*Branta canadensis leucopareia* - Aleutian Canada goose (D)
*Buteo regalis* - ferruginous hawk (SC)
*Buteo Swainsoni* - Swainson's hawk (CA)
*Carduelis lawrencei* - Lawrence's goldfinch (SC)
*Chaetura vauxi* - Vaux's swift (SC)
*Cinclus mexicanus* - American dipper (SLC)
*Contopus cooperi* - olive-sided flycatcher (SC)
*Cypseloides niger* - black swift (SC)
*Empidonax traillii brewsteri* - little willow flycatcher (CA)
*Falco peregrinus anatum* - American peregrine falcon (D)
*Grus canadensis tabida* - greater sandhill crane (CA)
*Lanius ludovicianus* - loggerhead shrike (SC)
*Melanerpes lewis* - Lewis' woodpecker (SC)
*Otus flammeolus* - flammulated owl (SC)
*Picoides albolarvatus* - white-headed woodpecker (SC)
*Picoides nuttallii* - Nuttall's woodpecker (SLC)

*Plegadis chihi* - white-faced ibis (SC)
*Riparia riparia* - bank swallow (CA)
*Selasphorus rufus* - rufous hummingbird (SC)
*Sphyrapicus ruber* - red-breasted sapsucker (SC)
*Strix occidentalis occidentalis* - California spotted owl (SC)
*Toxostoma redivivum* - California thrasher (SC)

***Mammals***

*Corynorhinus (=Plecotus) townsendii pallescens* - pale Townsend's big-eared bat (SC)
*Corynorhinus (=Plecotus) townsendii townsendii* - Pacific western big-eared bat (SC)
*Dipodomys californicus eximius* - Marysville Heermann's kangaroo rat (SC)
*Euderma maculatum* - spotted bat (SC)
*Eumops perotis californicus* - greater western mastiff-bat (SC)
*Lepus americanus tahoensis* - Sierra Nevada snowshoe hare (SC)
*Myotis ciliolabrum* - small-footed myotis bat (SC)
*Myotis evotis* - long-eared myotis bat (SC)
*Myotis thysanodes* - fringed myotis bat (SC)
*Myotis volans* - long-legged myotis bat (SC)
*Myotis yumanensis* - Yuma myotis bat (SC)
*Perognathus inornatus* - San Joaquin pocket mouse (SC)

***Plants***

*Agrostis hendersonii* - Henderson's bent grass (SC)
*Allium jepsonii* - Jepson's onion (SC)
*Astragalus tener var. ferrisiae* - Ferris's milk-vetch (SC)
*Atriplex cordulata* - heartscale (SC)
*Atriplex depressa* - brittlescale (SC)
*Atriplex minuscula* - lesser saltscale (SC)
*Atriplex subtilis* - subtle orache (SLC)
*Balsamorhiza macrolepis var macrolepis* - big-scale (=California) balsamroot (SLC)
*Botrychium ascendens* - upswept moonwort (SC)
*Botrychium crenulatum* - scalloped moonwort (SC)
*Calycadenia oppositifolia* - Butte County calycadenia (SLC)
*Calystegia atriplicifolia ssp. buttensis* - Butte County morning-glory (SC)
*Castilleja rubicundula ssp. rubicundula* - pink creamsacs (SLC)
*Clarkia biloba ssp brandegeae* - Brandegee's clarkia (SLC)
*Clarkia gracilis ssp albicaulis* - white-stemmed (=whitestem) clarkia (SLC)
*Clarkia mosquinii ssp. mosquinii* - Mosquin's clarkia (SC)
*Clarkia mosquinii ssp. xerophila* - Enterprise clarkia (SC)
*Cypripedium fasciculatum* - clustered lady's-slipper (SC)
*Fritillaria eastwoodiae* - Butte fritillary (SC)
*Fritillaria pluriflora* - adobe lily (SC)
*Juncus leiospermus var. ahartii* - Ahart's (dwarf) rush (SC)
*Juncus leiospermus var. leiospermus* - Red Bluff (dwarf) rush (SC)
*Lewisia cantelowii* - Cantelow's lewisia (SC)
*Lupinus dalesiae* - Quincy lupine (SC)
*Monardella douglasii ssp. venosa* - veiny monardella (SC)
*Myosurus minimus ssp. apus* - little mousetail (SC)
*Paronychia ahartii* - Ahart's whitlow-wort (=Ahart's paronychia) (SC)

*Penstemon personatus* - closed-lip (closed-throated) beardtongue (SC)
*Rhynchospora californica* - California beaked-rush (SC)
*Rupertia hallii* - Hall's rupertia (=Hall's California tea) (SLC)
*Sagittaria sanfordii* - valley sagittaria (=Sanford's arrowhead) (SC)
*Sedum albomarginatum* - Feather River stonecrop (SC)
*Senecio (=Packera) eurycephalus var lewisrosei* - cut-leaved ragwort (SLC)
*Sidalcea robusta* - Butte County sidalcea (=checkerbloom) (SC)
*Silene occidentalis ssp. longistipitata* - Butte County catchfly (=long-stiped campion) (SC)
*Trifolium jokerstii* - Butte County golden (=Jim's) clover (SLC)

**Key:**

(E) *Endangered* - Listed (in the Federal Register) as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed (in the Federal Register) for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Marine Fisheries Service. Consult with them directly about these species.

*Critical Habitat* - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(CA) Listed by the State of California but not by the Fish & Wildlife Service.

(D) *Delisted* - Species will be monitored for 5 years.

(SC) *Species of Concern*/(SLC) Species of Local Concern - Other species of concern to the Sacramento Fish & Wildlife Office.

(X) *Critical Habitat* designated for this species

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## Important Information About Your Species List

### How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regard-less of whether they appear on a quad list.

### Plants

Any plants on your list are ones that have actually been observed in the quad or quads covered by the list. Plants may exist in

an area without ever having been detected there. You can find out what's in the nine surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

### Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

### State-Listed Species

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. However you should contact the California Department of Fish and Game Wildlife and Habitat Data Analysis Branch for official information about these species.

### Your Responsibilities Under the Endangered Species Act

All plants and animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

### Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compen-sates for project-related loss of habitat. You should include the plan in any environmental documents you file.

### Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our critical habitat page for maps.

### Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

### Species of Concern

Your list may contain a section called Species of Concern. This is an informal term that refers to those species that the Sacramento Fish and Wildlife Office believes might be in need of concentrated conservation actions. Such conservation actions vary depending on the health of the populations and degree and types of threats. At one extreme, there may only need to be periodic monitoring of populations and threats to the species and its habitat. At the other extreme, a species may need to be listed as a Federal threatened or endangered species. Species of concern receive no legal protection and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species.

## Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

### Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be May 11, 2005.

# Jones & Stokes Associates, Inc.

2600 V Street • Sacramento, CA 95818-1914 • 916/737-3000 • Fax 916/737-3030


☐ Mail ☒ Fax ☐ Overnight ☐ Courier

To: Debbie Treadway
Native American Heritage Commission
915 Capitol Mall, #364
Sacramento, CA 95814
(916)657-5390

Date: 10 January 2005
Client: Bureau of Reclamation
Project: Shell Road Closure
Project #:

Subject: Cultural Resource Study in Tuolumne County

☒ Enclosure(s) ☐ Per your request ☐ For your review ☒ For your information/use
☐ Other

3 Total pages faxed Original will follow by mail ☐ yes ☒ no

| Quantity | Description |
|---|---|
| 2 | Project Location Map |

Message:

Jones & Stokes is conducting a cultural resources study for U.S. Bureau of Reclamation Shell Road Closure Project. The study area encompasses approximately 1.5 miles of road just south of New Melones Reservoir and three small staging areas in the vicinity (see enclosed maps). The project area is located in T1N R13E and T1N R14E, Sects. 19, 20, and 23. Because the project is on BOR property, cultural resource studies for this project will be performed in accordance with Section 106 of the National Historic Preservation Act. The current study is being undertaken to address the effects of closing the road to public vehicles and limiting access to horses and bicycles.

We are seeking comments from Native American representatives and would greatly appreciate your sending us a list of Native American representatives that might be interested in activities in this area. Also please consult your inventory of sacred lands. Please call me if you have any questions.

Thank you for your cooperation in this matter.
Sincerely,
Christiaan Havelaar FAX 737-3030

From: Christiaan Havelaar cc:

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

**NATIVE AMERICAN HERITAGE COMMISSION**
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

January 21, 2005

Christiaan Havelaar
Jones & Stokes Associates, Inc.
2600 V Street
Sacramento, CA 95818

Sent by Fax: 916-737-3030
Number of Pages: 2

RE: Proposed Shell Road Closure project, Tuolumne County

Dear Ms. Havelaar:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

**Native American Contacts**
Tuolumne County
January 20, 2005

Chicken Ranch Rancheria of Me-Wuk
Lloyd Mathiesen, Chairperson
P.O. Box 1159 Miwok - Me-wuk
Jamestown , CA 95327
chixranch@lodelink.com
(209) 984-4806
(209) 984-5606 Fax

Chicken Ranch Rancheria of Me-Wuk Indians
Melissa Powell, Cultural Resources Coordinator
P.O. Box 1159 Miwok/Me-wuk
Jamestown , CA 95327
chixranch@lodelink.com
(209) 984-4806
(209) 984-5606

Tuolumne Band of Me-Wuk
Reba Fuller
P.O. Box 699 Me-Wuk - Miwok
Tuolumne , CA 95379
(209) 928-3475 - Tribal Office
(209) 928-1677 - Fax

Tuolumne Band of Me-Wuk
Kevin Day, Chairperson
P.O. Box 699 Me-Wuk - Miwok
Tuolumne , CA 95379
(209) 928-3475 - Tribal Office
(209) 928-1677 - Fax

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

**This list is only applicable for contacting local Native Americans with regard to cultural resource assessment for the proposed Shell Road Closure project, Tuolumne County.**

Jones & Stokes

January 25, 2005

Tuolumne Band of Me-Wuk
Kevin Day, Chairperson
P.O. Box 699
Tuolumne, CA 95379

Subject: Shell Road Corridor Project, Tuolumne County

Dear Mr. Day,

United States Bureau of Reclamation (BOR) hired Jones & Stokes to conduct a cultural resources study for the proposed Shell Road Corridor Project. Federal permits through the U.S. Army Corps of Engineers (Corps) are required for the project, mandating compliance with Section 106 of the National Historic Preservation Act.

As part of our efforts to identify cultural resources and assist the Corps and PCWA with Section 106 compliance, we are seeking information from Native Americans regarding cultural resources.

The project area is located just south of the New Melones Dam Reservoir along the western base of Table Mountain in Tuolumne County (see enclosed maps). The project will permanently close a segment of Shell Road to all vehicular traffic. The road was initially closed due to the impacts created by local and non-local recreationists. The area has been descimated by off-road vehicle travel and damage to native plant species due to dumping of trash, creating serious soil erosion, habitat destruction, sedimentation, and other resource damages. Because of this, BOR is looking at alternatives to restrict road access to pedestrian, bicycle, and equestrian traffic only. The project area also includes three staging areas to be used for visitor parking that will include basic services such as toilets and water.

If you have further information needs, please contact me at the number below. Also, if you know of cultural resources that may be affected by the proposed project, please contact me so we can inform the Corps. Thank you for your assistance.

Sincerely,

Christiaan Havelaar
Archaeologist

Enclosures

2600 V Street • Sacramento, CA 95818-1914 • tel. 916 737.3000 • fax 916 737.3030
www.jonesandstokes.com

Jones & Stokes

January 25, 2005

Chicken Ranch Rancheria of Me-Wuk
Melissa Powell, Cultural Resources Coordinator
P.O. Box 1159
Jamestown, CA 95327

Subject: Shell Road Corridor Project, Tuolumne County

Dear Ms. Powell,

United States Bureau of Reclamation (BOR) hired Jones & Stokes to conduct a cultural resources study for the proposed Shell Road Corridor Project. Federal permits through the U.S. Army Corps of Engineers (Corps) are required for the project, mandating compliance with Section 106 of the National Historic Preservation Act.

As part of our efforts to identify cultural resources and assist the Corps and PCWA with Section 106 compliance, we are seeking information from Native Americans regarding cultural resources.

The project area is located just south of the New Melones Dam Reservoir along the western base of Table Mountain in Tuolumne County (see enclosed maps). The project will permanently close a segment of Shell Road to all vehicular traffic. The road was initially closed due to the impacts created by local and non-local recreationists. The area has been descimated by off-road vehicle travel and damage to native plant species due to dumping of trash, creating serious soil erosion, habitat destruction, sedimentation, and other resource damages. Because of this, BOR is looking at alternatives to restrict road access to pedestrian, bicycle, and equestrian traffic only. The project area also includes three staging areas to be used for visitor parking that will include basic services such as toilets and water.

If you have further information needs, please contact me at the number below. Also, if you know of cultural resources that may be affected by the proposed project, please contact me so we can inform the Corps. Thank you for your assistance.

Sincerely,

Christiaan Havelaar
Archaeologist

Enclosures

2600 V Street • Sacramento, CA 95818-1914 • tel. 916 737.3000 • fax 916 737.3030
www.jonesandstokes.com

Jones & Stokes

January 25, 2005

Chicken Ranch Rancheria of Me-Wuk
Lloyd Mathiesen, Chairperson
P.O. Box 1159
Jamestown, CA 95327

Subject: Shell Road Corridor Project, Tuolumne County

Dear Mr. Mathiesen,

United States Bureau of Reclamation (BOR) hired Jones & Stokes to conduct a cultural resources study for the proposed Shell Road Corridor Project. Federal permits through the U.S. Army Corps of Engineers (Corps) are required for the project, mandating compliance with Section 106 of the National Historic Preservation Act.

As part of our efforts to identify cultural resources and assist the Corps and PCWA with Section 106 compliance, we are seeking information from Native Americans regarding cultural resources.

The project area is located just south of the New Melones Dam Reservoir along the western base of Table Mountain in Tuolumne County (see enclosed maps). The project will permanently close a segment of Shell Road to all vehicular traffic. The road was initially closed due to the impacts created by local and non-local recreationists. The area has been descimated by off-road vehicle travel and damage to native plant species due to dumping of trash, creating serious soil erosion, habitat destruction, sedimentation, and other resource damages. Because of this, BOR is looking at alternatives to restrict road access to pedestrian, bicycle, and equestrian traffic only. The project area also includes three staging areas to be used for visitor parking that will include basic services such as toilets and water.

If you have further information needs, please contact me at the number below. Also, if you know of cultural resources that may be affected by the proposed project, please contact me so we can inform the Corps. Thank you for your assistance.

Sincerely,

Christiaan Havelaar
Archaeologist

Enclosures

2600 V Street • Sacramento, CA 95818-1914 • tel. 916 737.3000 • fax 916 737.3030
www.jonesandstokes.com

Jones & Stokes

January 25, 2005

Tuolumne Band of Me-Wuk
Reba Fuller
P.O. Box 699
Tuolumne, CA 95379

Subject: Shell Road Corridor Project, Tuolumne County

Dear Ms. Fuller,

United States Bureau of Reclamation (BOR) hired Jones & Stokes to conduct a cultural resources study for the proposed Shell Road Corridor Project. Federal permits through the U.S. Army Corps of Engineers (Corps) are required for the project, mandating compliance with Section 106 of the National Historic Preservation Act.

As part of our efforts to identify cultural resources and assist the Corps and PCWA with Section 106 compliance, we are seeking information from Native Americans regarding cultural resources.

The project area is located just south of the New Melones Dam Reservoir along the western base of Table Mountain in Tuolumne County (see enclosed maps). The project will permanently close a segment of Shell Road to all vehicular traffic. The road was initially closed due to the impacts created by local and non-local recreationists. The area has been descimated by off-road vehicle travel and damage to native plant species due to dumping of trash, creating serious soil erosion, habitat destruction, sedimentation, and other resource damages. Because of this, BOR is looking at alternatives to restrict road access to pedestrian, bicycle, and equestrian traffic only. The project area also includes three staging areas to be used for visitor parking that will include basic services such as toilets and water.

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